RESTORATION AND ADAPTIVE USE
OF AN URBAN CHURCH

by

Ann Macy Beha

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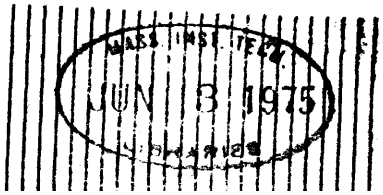
Accepted by _____
Chairman, Departmental Committee on Graduate Students



ABSTRACT

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Submitted to the Department of Architecture on 9 May, 1975, in partial fulfillment of the requirements for the degree of Master of Architecture.

This thesis presents a case study for restoration and adaptive use of the First Baptist Church, Cambridge, Massachusetts. The thesis was sponsored, in part, by the Albert Farwell Bemis Fund.

Thesis Supervisors:

Tunney Lee, Professor of Architecture, MIT
Dolores Hayden, Professor of Architecture, MIT
Norman R. Weiss, Society for Preservation of New England Antiquities

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INTRODUCTION
& BACKGROUND

Making the Process

As with most theses, process emerges far more strongly than product. In this case, the process has often been truly dramatic, and always truly theatrical. There have been a variety of sets: the church, the studio, the Harrison Grey Otis House, the Cheswick Center, the Cambridge Historical Commission. Each set has had its own set of characters and actors: the congregation, Rev. James Unger, at the church, Dolores Hayden, Tunney Lee, Ed Allen and Leon Groisser at MIT; Norman Weiss, David Hart and Max Ferro at the Society for Preservation of New England Antiquities; Rev. Richard Armstrong and Thomas Savage, S.J. at the Cheswick Center; Mindy Arbo, Leonard Press and Laura Hackell, who worked on crucial sections of the study with me; and Charles Sullivan of the Cambridge Historical Commission. There have been crises and struggles all along the way, and there have been the behind-the-scenes workers, like Sandy Congleton and Ron McNeil, who helped me with the written and visual document.

The process is always collaborative, and clearly, everyone mentioned has had a strong and valuable impact on it. But the people to whom this process is dedicated are those who always encouraged and, themselves, carry on similar processes. Without the support of my colleagues in the thesis studio, the report would never have been as exciting or delightful. This process is dedicated to Michael Harris, Paul Battaglia, John Lederer and James Czajka. While immersed in their own processes, they always found time to share experiences and thoughts with me about mine. It is also dedicated to Robert Radloff, who always makes what I do seem worthwhile.

The Study

This study of Restoration and Adaptive Use of the First Baptist Church had the following intents:

1) Provision, for the congregation, of a thorough report on the church's physical condition. This includes investigation of building problems and their causes, development of repair and restoration solutions for the building, including estimated costs for solutions.
2) Provision, for the congregation, of an analysis of potential new uses for the church, based on under-utilized areas in the building.
3) Development of methods and criteria for analysis of spaces for new adaptive uses.
4) Development of methods and criteria for investigation of building problems.
5) Development of strategies and guidelines for fund-raising, development of capital, and maintenance programs, for the church.
6) An effort to take the issues beyond a specific case study to more generalized cases of restoration and adaptive uses of urban churches.

The study was initiated by the First Baptist Church, who contacted the MIT Architectural Assistance Program for advice about their building's condition. It was apparent from a preliminary analysis of the church that time and professional advice were needed. As a thesis, full-time commitment to the problem was possible, and through assemblage of funding sour-

ces, outside consultants could be brought in, and the time needed for the work contained. The Department of Architecture at MIT provided valuable consulting services and advice to the author. The main actors assembled for the project were consultants from the Society for Preservation of New England Antiquities, particularly Norman Weiss, MIT Professors Dolores Hayden, Edward Allen, and Leon Groisser; and Professor Tunney Lee, who acted as advisor for the thesis.

Measured drawings were produced by a team of students: Leonard Press, Laura Hackell, and the author, and photographic work is by the author, with assistance from Professor Ron McNeil, of the MIT Visual Language Workshop. The Cheswick Center, a study group on Adaptive Use of Churches, has also given advice to the church and the author. A church delegate, Mrs. Muriel Brown, of Cambridge, worked with the study; Mindy Arbo, of Cambridge, researched and developed funding strategies for the church, and Charles Sullivan, Director of the Cambridge Historical Commission, did work for the church on the National Register of Historic Places. The First Baptist Church Building Study Committee has received reports of the study's progress along the way.

Thus, the delegation of work in the study was organized as follows:

1) Author: General Coordinator of Study
Adaptive Use Section
History and Background
Graphics, Design Development

2) Outside Consultants and MIT Advisors:

Building Condition
Methods of Repair
Program for Restoration

3) Church Group:

Indication of Client Needs
Indications of Intent
Response to and Guiding of Work

4) Cheswick Center:

Provision of Other Examples and a
Context for the Broader Issues Discussed

5) Special Consultants:

Mindy Arbo: Funding
Charles Sullivan: Cambridge Historical Commission

Funding proposals for this study were submitted to and received from three sources:

First, the church pledged $400 as evidence of its commitment to the study.

Second, the Albert Farwell Bemis Fund, administered through the Laboratory for Architecture and Planning at MIT, committed $1,200 to thesis expenses for the author.

Third, the Bertha M. Koempel Foundation of New York City, administered by its trustees, committed $1,000 to the church for its study.

These sources were pooled into one account, "The First Baptist Church Building Study Fund" at the Cambridgeport Savings Bank ('Now' account). The checks are co-signed by the author, representing the study, and by Mrs. Brown, representing the church. An up-to-date financial statement for the study is included in this study. Balance of the fund will be allocated to further work on the study, with which the author will be associated.

In short, the study is intended to raise issues about restoration and adaptive use, and to answer specific questions and issues about the

First Baptist Church. The study was completed in four months, and there are many issues it never addresses, and some it, admittedly, cannot answer. Although the work was originally delegated in the manner described, some issues ended up being very time-consuming, so that others fell by the wayside. The process was one of discovery of ideas and issues, and the attempt to put these together in some kind of useful way for the church and ourselves.

The Building

Process:

Developing background, history and familiarity with the building has been a process of assemblage. Primary sources have been the Historic American Building Survey description, completedin 1968, and the Cambridge Historic Commission's survey of Cambridge buildings. The church's bulletins, photograph and slide collection, and anniversary publications have also shed light on the building, and congregation's, background. Secondary sources have included works on Hartwell and Richardson, and recollections of members of the congregation and community. No drawings of the building survive; hence, one of our first tasks was to produce a set of measured plans and sections of the building. This process made the building more familiar, as the location of plumbing pipes, heating services, and specific building problems were uncovered. Often, this slow process produced frustration, but also a sense of the building as place, and knowledge of its structure and characteristics.

The present church building is the third to occupy the half-acre site at the junction of Magazine and River Streets at Central Square. The first church, built in 1817, was a simple white clapboard structure surrounded by a picket fence and softened by a green area around it. Following its destruction by fire in 1866, it was replaced by a more imposing Gothic Revival building with several spires, designed by S.S. Woodcock. It, too, was destroyed by fire, and in 1881, the present church, designed by the prominent Boston firm of Hartwell and Richardson, replaced it, built on the stone foundation of its predecessor. It, too, is in the Gothic Revival style and is similar in plan to Woodcock's building. The church is of brick bearing wall construction, with interior cast iron columns, supported in the full basement by brick piers. The exterior boasts a masonry buttress system accented by sandstone caps, these buttresses being of a more decorative than structural nature. The bell tower, at the northeast corner of the building is approximately 190 feet high, with a red and grey banded slate spire. These same colors are also found on the gabled roofs, which are slate.

The exterior mass reflects an internal organization of two distinct parts: Sanctuary and Ell. The Sanctuary comprises 5,940 square feet with a 65 foot gabled ceiling. The basement under the Sanctuary adds another 5,940 square feet with a 9 foot 6 inch ceiling. A striking feature in the Sanctuary is an exposed dark wood truss system, with cast iron cross beams. The balcony, supported by cast iron fluted columns, runs along three sides of the Sanctuary. 12 foot high stained glass windows, topped by a horizontal band of clerestory windows, allow limited light to pene-

trate. Oak panelling and wainscoting are a predominant decorative feature of the sanctuary and ell. The sanctuary and balcony seat approximately 1,000 persons.

Square footage in the ell totals 6,434 square feet, with a 45 foot ceiling in the vestry and 12 foot ceilings in the other rooms. The ell basement adds another 5,110 square feet, with 9 foot 6 inch ceilings. The ell includes eight major rooms: the central vestry, or assembly room, a kitchen, dining room, parlor, minister's office, secretarial area, and nursery on the first floor, and two large classrooms, storage space, and bathrooms on the second floor, and a number of finished spaces in the basement. A major decorative feature of the ell is the interior partition system of single and double height leaded glass operable sash windows, set on oak panelling. This distinctive architectural feature makes the ell a special additive space. When the windows are open there is a clear, open plan to the ell space.

As mentioned, the body of the church rests on a full, largely unfinished basement, with half size windows. A 1912 renovation of the ell basement included finishing off three offices and a large central space with concrete floors, and pine panelled partitions, and installing bathrooms. An unusual attic space over the ell marks the intersection of the major roof systems, and has exposed wood trusses and limited natural light and ventilation. Access to the attic is through a stair on the east side of the ell second floor. A set of measured plans and sections, as well as a number of photographs of the interior and exterior are included in this study.

Special interior features of the church include ceiling rosettes,

acting as grating for the natural ventilation system through the attic; interior skylights, windows and clerestories, brass converted gas to electric light fixtures in the ell, and a repeated pattern of oak panelling on stairs, walls, altar, and balcony.

On the exterior, special features include decorative basketweave and sawtooth brickwork patterns, a large central rose window (which also highlights the sanctuary interior), and the unusual, slightly glossy orange brick color. The bricks are joined with very slim mortar joints, which makes the wall appear more as continuous mass than as a composite of parts. The building is set up from the sidewalk on a twelve inch high curb, and surrounded by grass and two islands of evergreen bushes. Brick sidewalks lead the pedestrian to a number of entrances to the church, the most central facing Massachusetts Avenue, and leading to the sanctuary.

The First Baptist Church was proposed this year by the Cambridge Historical Commission for inclusion in the National Registry of Historic Places. The proposal was based on the church's architectural merit and on its merit as a landmark in Central Square and Cambridge. The position of the church, on an island, is a clear demarcation between the traffic and commercialism of Central Square and the rich environment of an ethnically, economically and architecturally diverse set of neighborhoods. If the church is included on the Register, it will become eligible for a variety of funding programs for its restoration and maintenance in the future. Registration will in no way restrict the owner from modifying or demolishing the building, as long as federal funds are not employed in altering its appearance. If federal funds are to be used (as in the case of a federal highway proposal, or more likely, a federal mortgage loan or construction

subsidy) an open hearing would be held by the Massachusetts Historical Commission to determine if there were an feasible alternatives to such action. If no feasible alternative can be demonstrated, then funding may be approved and the project would proceed. If there are other feasible alternatives to the action, they may emerge at such a hearing, and the federal funds would be dropped. Originally, the congregation was concerned that registration of the building would prohibit them from changing or selling it for demolition, but this is not true; registration cannot impose economic hardship on the owner, as has been demonstrated with a number of other landmark buildings. Eventually, the congregation recognized that an open hearing, if it came to that, might clearly be in their favor, as it might bring to light new proposals for the building that might be desirable.

Registration is, above all, crucial to the First Baptist Church because it gives them credibility as an architecturally important building, which makes them eligible to apply for financial aid from a variety of federal, local, and private funding sources.

The Congregation

Process:

Much of our statistical information about the congregation was compiled from sources like annual reports, anniversary publications, and church historians' reports. As the study proceeded, the congregation became known more personally; through meetings and dialogue, many images began to emerge. The congregation is older, conservative and no longer entirely Cambridge-based. What it once was clearly affects its current self-image.

For the First Baptist Church, the congregation is the church. The rule is by the people; hierarchy and connection with the North American Baptist Convention is limited. Historically, the congregation was assembled on the site in 1817, and the church had a strong missionary purpose. Through this commitment, a number of other Baptist congregations were born in Cambridge and the Boston area. The original congregation was composed of Cambridge residents, but not limited to Cambridgeport.

An original request to the city for a site for a site for a Baptist Church in Harvard Square was refused, so the church settled on a less prestigious, but still central location in Central Square. Much of the history of the church is held in oral tradition; clearly, the church's past activities show that it was a very active civic force in Cambridge. The congregation is almost exclusively white, and, at one time, overflowed the church building. Many of the worshippers in the late nineteenth through the mid-twentieth century were Cambridge, often Cambridgeport, residents, but general migration to the suburbs and neighborhood turnover has now clearly affected the membership of the church. The move to the suburbs of many members, coupled with the general public appeal problems that religion seems to have today, have resulted in a rapidly dwindling congregation.

The membership of the church in the early twentieth century was near 1,000; 1975 finds a mailing list of 123 persons at the church, and an active congregation of between 40 and 80 persons. The church is closed during the summer, and, due to the high heating costs, services are held in the vestry in the winter months. Congregational decline, and increases

in annual operating costs have resulted in dialogue with five nearby congregations, centering on the issue of a coalition of congregations and the formation of a United Parish. After two years of dialogue, the congregation is still not a close reality, as other dwindling congregations seem anxious to hold on to their properties as long as their finances last. The work of this study is important to the proposed coalition of congregations, but also to the First Baptist Church, which will face some hard decisions as a result of some of the information uncovered about the condition of the building. It is important to note that the adaptive use of the study originally considered that a coalition of congregations would be formed at the First Baptist Church. As the work proceeded, it was clear that no such unison is in view for the near future, no matter how desperately it is needed. Without the coalition, it may be that the current members of the First Baptist Church are too small, and therefore, its leadership too limited, to undertake a far-reaching restoration and adaptive use program to save the church.

Financial Needs and Burdens

Process:

In discussing financial burdens of the church, we are really discussing the plight of many older churches, and partially exposing why they are in trouble. The process for pinpointing financial burdens has been to look at what comprises a good maintenance program of an older building, and particularly, how such a program would be structured in relation to this specific building and site. Financial burdens also include annual costs of operating the building, and the initial repair program costs.

The repair program and costs will be discussed later. The operating costs are dependent on the programs at the church, and might, like the maintenance program, be offset by new income from adaptive use of the facilities. But a "maintenance program" is still an elusive one for many older buildings. The process for development of the program was first to look at the building and site, and see what kind of preventive approach could forestall further problems, and to talk to other churches about their own maintenance programs and what they spend on them. Contractors, restoration consultants, heating engineers, safety and fire prevention consultants were valuable sources of information for this section, and the perhaps haphazard way it was really developed was by walking through the building again and again with people familiar with restoration, repair, and maintenance programs, and assembling many thoughts on the anticipated needs for maintenance at the church.

The general scope of a maintenance program for the building is discussed below:

1. Exterior Maintenance

This includes building and grounds. In the case of the First Baptist Church, the limited maintenance programs in the past have often used the wrong solutions to problems. Some efforts at maintenance have aggravated existing problems. The grounds, while limited, need attention, and the efforts and proper maintenance of bushes and landscaping have been minimal. The grounds of the church are littered and dirty. Many signs

are in disrepair. An ongoing maintenance program does not exist.

2. Exterior Repair

Many older churches are hit by these costs more than newer churches. Lack of proper maintenance at some given moment leads to specific building problems. This has happened at the First Baptist Church, and there has not been a "trouble-shooting" approach to the building, so that once simple problems have accelerated, and are now major and costly repair issues.

3. Interior Maintenance and Repair

The interior of the church often suffers from exterior problems. Areas which leak because of exterior gutter line repairs are ignored, and soon paint has peeled away and plaster is softened. Finally, the exposed plaster begins to break away, and moisture affects the wood lath, or floorboards, or even floor joists or beams, causing rot. This process does not take a long time, and the process accelerates as the conditions are ignored year after year. There are multiple cases of such processes on the interior of the First Baptist Church.

4. Maintenance and Modernization of Facilities

This last building cost will vary, but, in the case of an older church, it might include precautions against vandalism of the premises (and, therefore, avoidance of expensive replacement costs for items or areas of the church), installation of new lines to absorb plumbing loads, modernization of wiring and electrical loading capabilities, installation of fire prevention systems. This might mean sprinklers, alarms, smoke detectors, or just exit signs and fire doors. The First Baptist Church falls short in a number of these categories. This report does not explore their needs for new systems, because loads relate to specific types

of use. But clearly, the church is dealing with an antiquated and wasteful heating system. The church is not protected from vandalism (the presence of the Police Station across River Street has not made the building vandal-proof), and there are no fire precautions or extinguishers in the building. Every older building needs to address these issues of modernization as part of its annual costs, but by phasing the program, costs can be spread. If the program is not developed, then everything comes at once, and often, crisis precipitates action.

These carrying costs relate only to the shell of the building; there are also annual operating costs, related to uses of the building. Often, these use costs, like heating or electricity, could be cut drastically if the church had developed a program for modernization of facilities. In fact, this program, related to financial burdens, is one that any building, old or new, faces at some point. The specific financial burdens of such programs have not been felt by the First Baptist Church, as no such program has existed there in the recent past. This is why the church is in such desperate condition, where it can no longer turn its back on its physical problems.

In general, the church faces carrying costs and operating costs. It faces no taxes. But with such a small congregation, it is easy to see why, with a $30,000 budget in 1973, only $3,000 was spent on maintenance; but this fact shows why the building faces a heavy program of restoration, followed by a continual program of maintenance and trouble-shooting, if the building is to survive. In the case of a new owner for the building, the maintenance program is still very much a necessity, and the program

should be directed by an individual familiar with the building, the previous work done on it, and the complexities of repair of an older building.

Observations of the kind of financial burdens that such a rigorous maintenance program would impose on this large building may begin to shed light on why so many churches find themselves in severe financial trouble, and their buildings in severe disrepair. Heavy operating and maintenance costs may be part of the reason why so many churches remain closed to adaptive uses, and why spacious and viable community areas remain underutilized. We also must raise the issue of whether a community facility which has heavy financial burdens, but is an historic asset to the community, should have to be its own sole support. The emergence of a number of new funding programs suggests that public policy is beginning to acknowledge that landmarks must be supported by all of us, if they are to be preserved. The church's endowment generates only $10,000 annually, and its annual budget has hovered around $30,000, from which it must pay minister, staff, operating costs, and maintenance. In the past, as little as $3,000 annually has been spent on maintenance programs. Between $20,000-$25,000 should be allotted to an annual maintenance program, above initial restoration costs. Clearly, the church cannot continue to be its own sole support, unless a variety of new income-generating programs are established at the church.

The Context and Community

Process:

As part of this report, the church must be expressed in terms of

its physical and social context. The information gathering process was two-fold: as primary sources for the building's physical context, zoning ordinances and legal restrictions on the site were considered. For its social context, the census tract reports (tracts 33 and 34) and "Social Characteristics of Cambridge, Massachusetts" were consulted, based on the 1970 census. Often, these primary sources were just background or verification for information received from other valuable sources. These included members of the Cambridgeport residential community, Central Square merchants, and Central Square businessmen. In this final category, some of the most informative views of what has been happening and may happen in Cambridgeport and Central Square came from mortgage loan and real estate officers of banks in Central Square. They provided insight into the trends and economic climate in the community, but perhaps more importantly, into the attitudes of business toward the community in which they are located; these attitudes varied from one of negative interest, and support of the building's demolition, to clear evidence of the bank's previous activity in providing high-risk mortgages to families in Cambridgeport. Thus, interview and research were the basis for trying to develop a clear picture of the Cambridgeport and Central Square community. Obviously, a community is more than the sum of its parts, and the framework presented here is only a background for considering the needs and problems of the community and its potential relationship with the church.

Physically, the following observations on the church are offered:

1. Located on an island, with major traffic around it, at Central

Square.

2. Massively constructed, with no exposure on internal activities to the pedestrian.
3. Zoning: Business, "B", with a variety of uses allowable.
4. Site size: approximately 20,000 square feet.
5. Excellent proximity to public transit, with Red line MBTA and bus stops within very close walking distance.
6. Currently limited on-street parking, with municipal parking lot facing the church on Magazine Street, and a new parking facility under construction one block away, on Pearl Street.

Social characteristics of Cambridgeport, represented primarily by Census Tracts 33 and 34, include the following:

1. Between 32-42 percent of the population are foreign speaking.
2. Median years of school completed between 11 and 12 years, with 48 percent of the population having not completed high school.
3. Median family income around $8,500 a year.
4. Between 5 and 14 percent, depending on neighborhood, are below the poverty level.
5. Married women in labor force, with children under 6, range from 46.3 percent, the highest in Cambridge, to 10.2 percent, depending on tract.
6. Comparatively high rates of unemployment are found in Cambridgeport.
7. White-collar workers account for between 47 and 61 percent of

the population, depending on tract, blue-collar workers between 22 and 29 percent, and Service workers between 15 and 20 percent of the population.

8. Housing built before 1940 accounts for between 85 and 90 percent of the housing stock.

These figures represent two tracts: 33, from Sidney Street to River Street to Memorial Drive, which has higher income, better housing stock, and generally better physical and economic conditions, and tract 34, from River Street to Peabody Terrace, and the beginning of the Harvard campus housing. This tract has lower general income, poorer housing stock, and a higher poverty level than tract 33.

To supplement these physical and social characteristics, interviews about the neighborhood and Central Square, were conducted with a variety of business representatives and community leaders there. Some of their observations are recounted:

1. Cambridgeport is a racially and ethnically mixed area. The immediate ethnic context of the church is Syrian and Greek.
2. The last few years have seen an increased influx of young professional and academic home purchasers. This group tends to purchase the larger houses, with garages and yards.
3. Three-decker housing stock, predominant in Cambridgeport, is being purchased largely by Puerto Rican, Syrian, and Greek families.
4. Increases in home purchasing, and higher purchase prices, are anticipated.

5. Central Square is suffering from physical and economic decline. The rate of turnover and vacancy in office and retail is currently very high. Some office buildings are currently completely empty. Most buildings are owned by individuals and families who, at this point, may be anxious to unload their property.
6. Office rental prices vary in Central Square, and are generally around $5-6 a square foot at new buildings, and lower in older buildings.
7. The current economic climate has curtailed plans for retail and business district renewal. Many private development plans have been scrapped or postphoned indefinitely.
8. Transients, hippies, derelicts present a negative image of Central Square to the community. Lack of sufficient counseling and shelter facilities for these groups is one of Central Square's big problems.
9. The physical condition of Central Square is another detriment to full use by the community. City services, tenant upkeep, presence of undesirables, sign controls, lack of public amenities: all of these contextual issues contribute to the visual decay of the area and the migration of the community to outlying shopping areas. Currently, most food shopping is at the Memorial Drive Stop and Shop. Other popular retail areas include Lechmere Sales and Bradlees, on the McGrath highway, in Somerville.

10. Several new housing developments are close to completion in Cambridgeport, including 808 Memorial Drive, and a large housing-for-the-elderly project on Pearl Street, one block from the shopping area.

11. In general, most of those interviewed were not impressed with the current congregation's leadership potential. Cambridgeport is filled with very active, strong, community groups. The congregation is recognized as conservative and inactive. Because they have not been a strong force in the recent past, they are not really recognized as a viable leadership group. Their civic commitments and previous adaptive use programs have not met community needs. The church is regarded as a monument and landmark, but many do not feel it plays a role other than esthetic relief.

Cambridgeport and Central Square present numerous contrasts. There seems to be incredible potential and there certainly is evidence of change. Revitalization of the business and retail district might be geared to new trends in housing in Cambridgeport, and again, to the MIT community, where a strong source of potential income exists. The market for shops and goods still exists; Cambridgeport is a full, not empty, community. But the visual and physical conditions of the Square, and low quality of neighborhood shops, as well as problems with vandalism and robberies, make Central Square an area that is now obsolete to the neighborhood it once served, and which it still could affect.

illustrations

LIST OF ILLUSTRATIONS: THE BUILDING

Plate

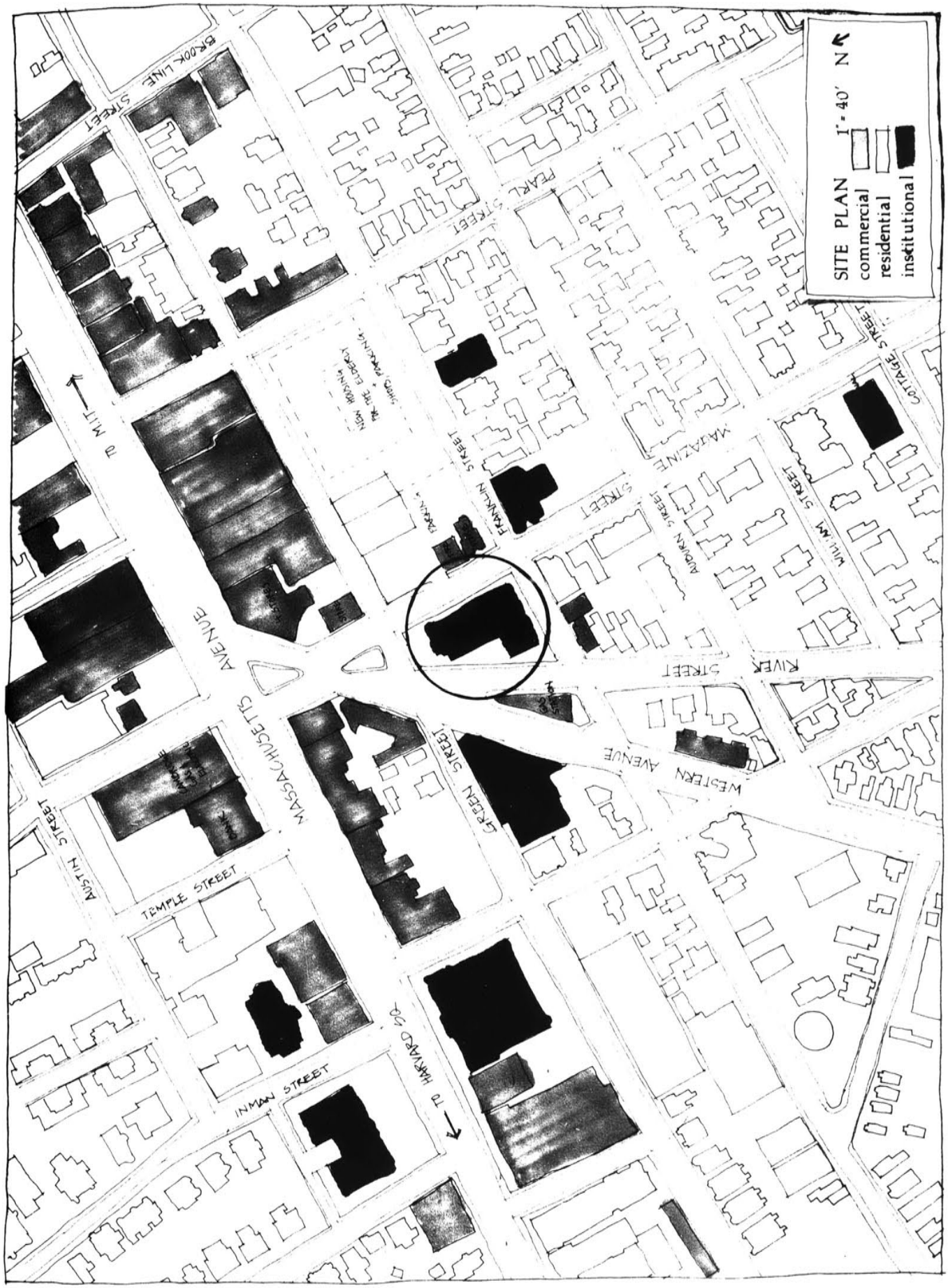
SITE PLAN
commercial
residential
institutional
1" = 40'
N
BROOK LINE STREET
PEARL STREET
FRANKLIN STREET
MAGAZINE STREET
AUBURN STREET
MILL ST.
COTTAGE ST.
RIVER STREET
WESTERN AVENUE
MASSACHUSETTS AVENUE
GREEN STREET
AUSTIN STREET
TEMPLE STREET
INMAN STREET
TO MIT
TO HARVARD SQ.
HIGH HOUSING
NEIGHBORHOOD
PARKING
PARKING

Plate 1

Plate 2

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Plate 3

Plate 4

Plate 5

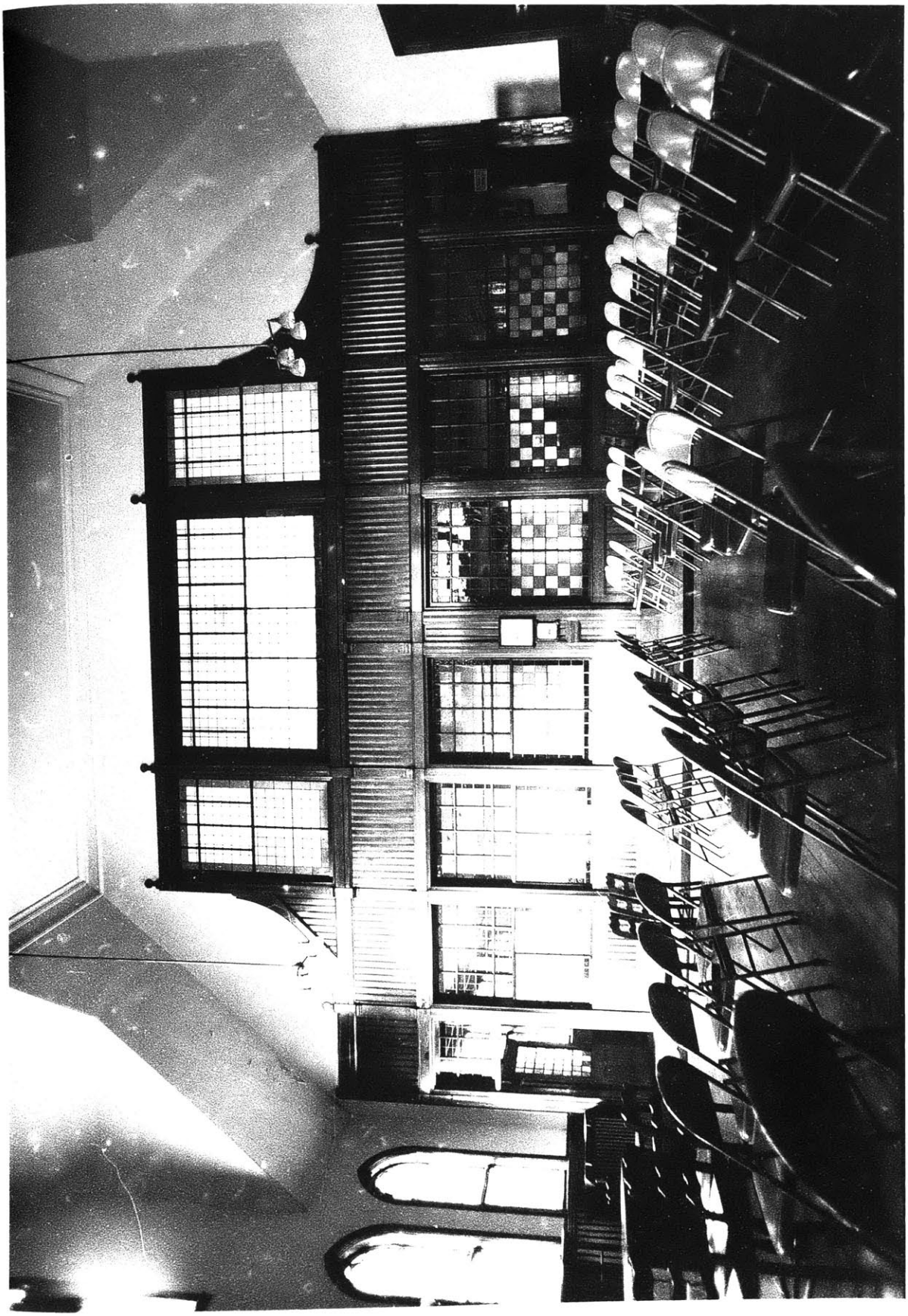
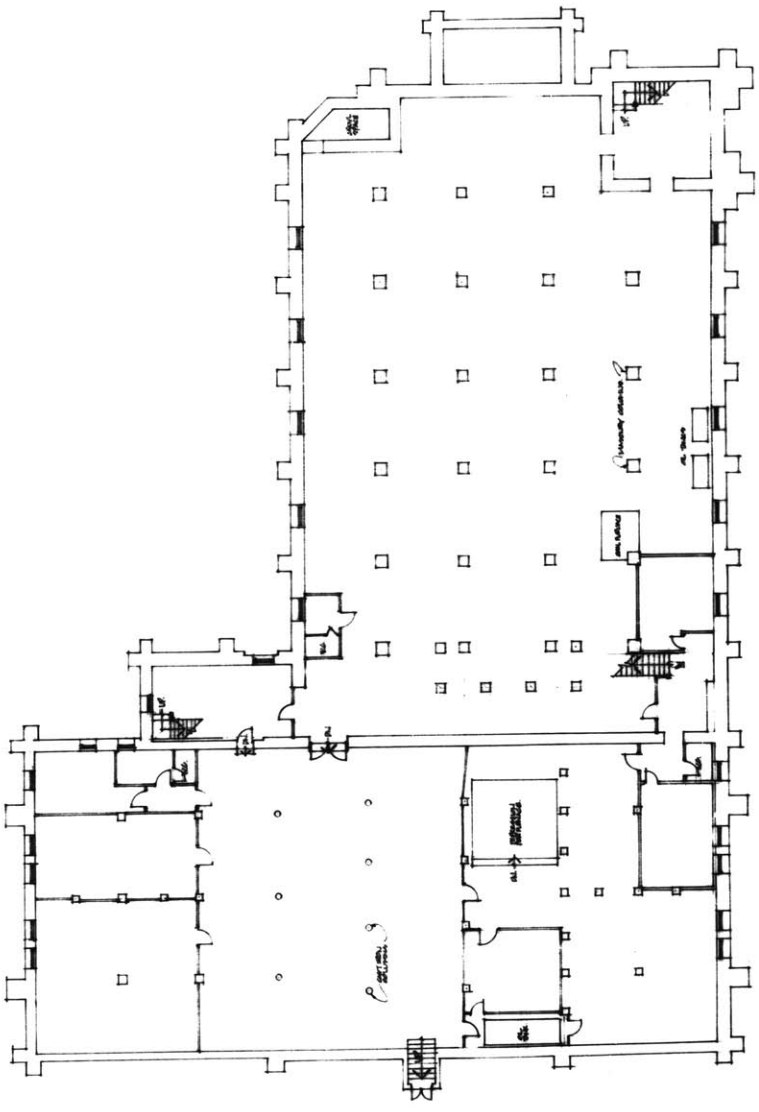


Plate 6

Plate 7



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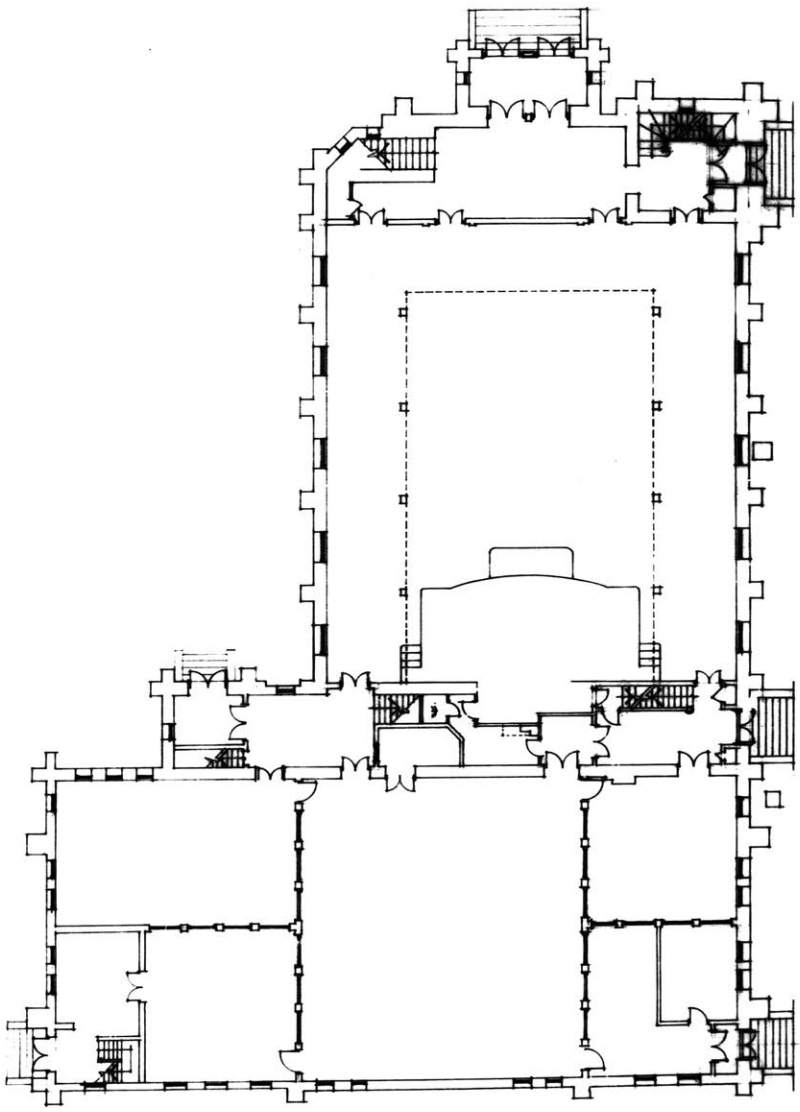


SECOND FLOOR PLAN

Plate 9

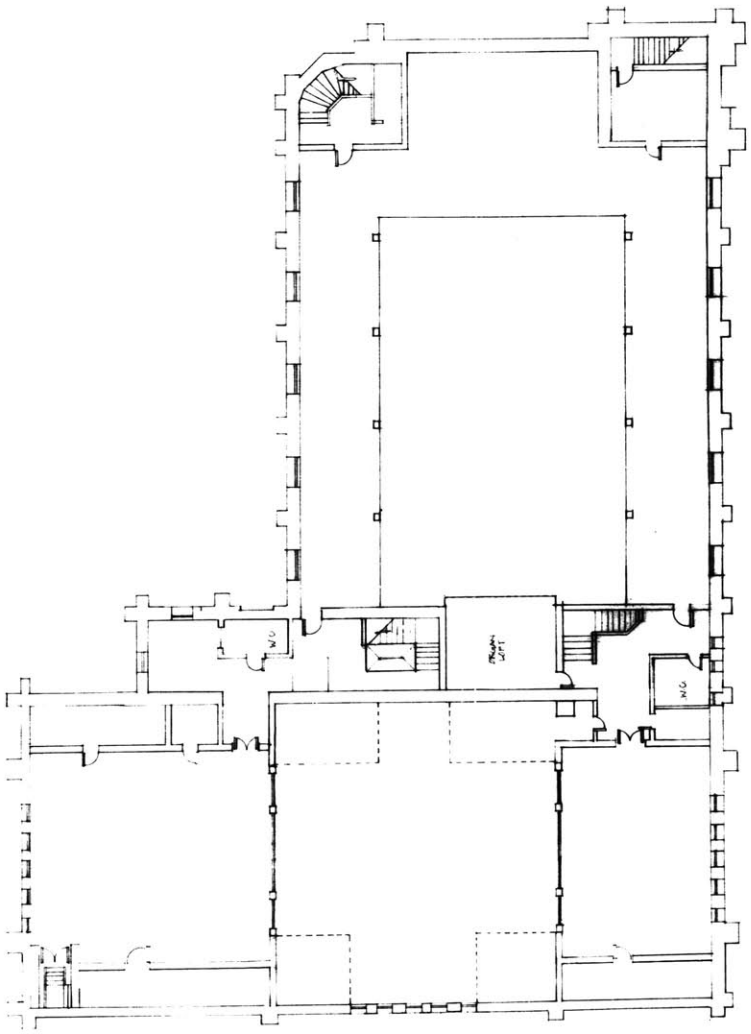
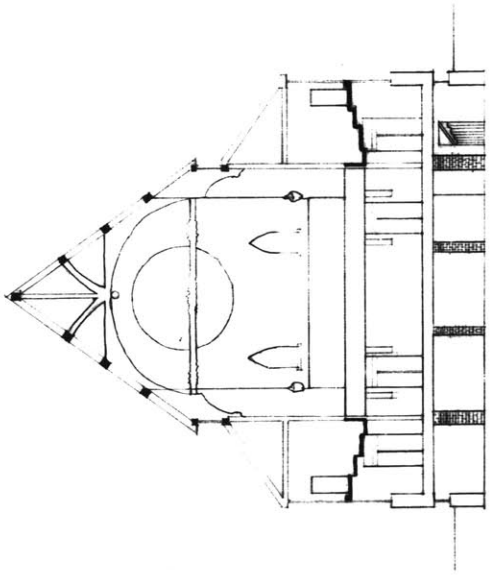
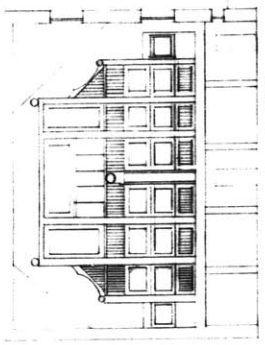
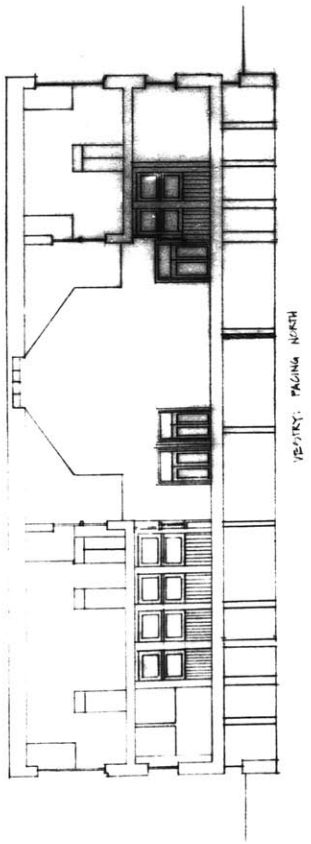


Plate 10

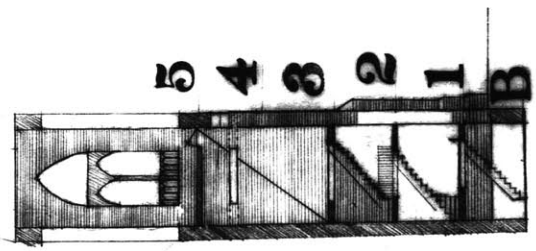






SECTIONS: VESTRY (FULL)
SANCTUARY
SCALE: 1/8" = 1'-0"

Plate 11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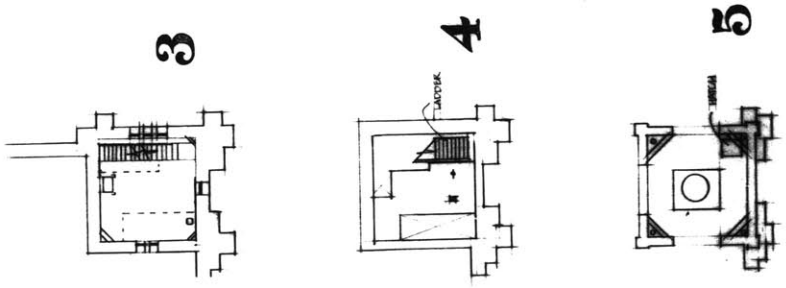
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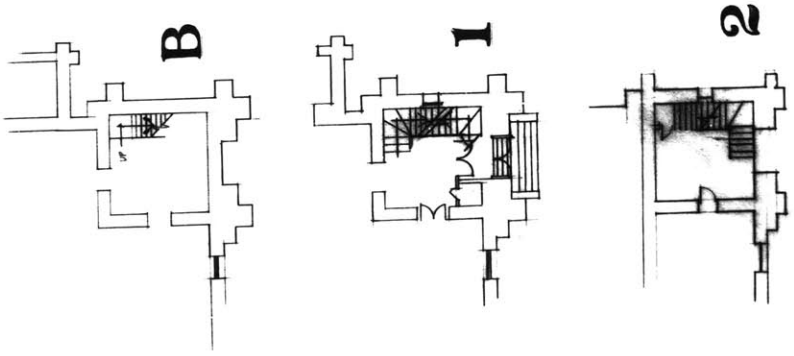
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FINANCIAL STATEMENT: FIRST BAPTIST CHURCH BUILDING STUDY FUND

Current to May 1, 1975

INCOME

$1,000	Bertha Koempel Foundation 1 Chase Manhattan Plaza New York, New York 10005
$1,200	Albert Farwell Bemis Fund MIT, Cambridge, Ma. 02139
$400	First Baptist Church Cambridge, Ma.
$2,600	TOTAL

DISBURSEMENTS

$740	Consulting Services, Society for Preservation of New England Antiquities (Building Analysis)
$200	Consulting Services, Mindy Arbo (Funding Sources)
$196.47	Graphic Reproduction and materials
$1,136.47	TOTAL DISBURSEMENTS TO DATE

RESTORATION and REPAIR

A primary goal of this study is a thorough examination and analysis of the building condition and problems at the First Baptist Church. This information, including analysis of existing problems, proposed solutions, costs, and a priority system for repairs and maintenance, are to be used by the congregation or any future owners of the property to consider the needs of the building, The kinds of financial burdens imposed by these needs will be a decisive factor in determining the building's future.

Process:

Early in the study, architectural conservators were brought in to examine the church. These consultants described their impressions of the problem and structural and materials consultants also examined and discussed the church's condition. A loose program for restoration was developed. Contractors were then brought in to estimate costs; often, they fundamentally disagreed with the previous analysis; in some cases, they concurred. Often th disagreement focussed on the methods suggested for repair. Again, the proble were re-thought, re-analyzed, and solutions re-considered. That so many differing opinions should exist is not unusual; the building presents very unusual problems, and many contractors and consultants are not familiar with the problems of older buildings. The final approach and analysis offered here is the work of many, offering bits of information related to materials, the building's history, and climatic conditions on the site. Putting all the opinions and information together to make sense turned out to be a major undertaking, done under supervision of an experienced architectural conservator. But much of the important information came

from unlikely sources: members of the congregation, students, neighborhood residents. It was essential to the process that many were consulted. The result was a piecing together of information to evolve an effective analysis and strategy. The major evidence continued to be the building, itself. Only by repeated examinations, visits, blow-ups of photographs, did some of the pieces of this puzzle begin to fit.

The First Baptist Church, like so many other large but under-utilized buildings, suffers from a combination of neglect and mistreatment. In most cases, the neglect was financially related; the mistreatment, in large part, was the result of poor judgment and inadequate information about building problems and solutions. Costs and mistakes might have been avoided if sound advice had been available to the church's management over the years. Piecemeal and shortlived solutions have now proven to be false economies for this building, and, in many cases, these solutions have resulted in aggravation of the problem that they were intended to cure.

This church is certainly not an isolated case. Its predicament underlines the need, on a large scale, for restoration information to be available for all buildings--even those that are recently constructed. That restoration advice is seldom originally sought in cases like the First Baptist Church, may be a function of the cost of such advice, but could also be related to the general public consciousness about restoration, and the public image of the profession. This image may be that restorers are primarily concerned with only extremely important architec-

tural works, that they make the work to be done more expensive by insisting on special methods and materials, and that restoration is a treatment for very old buildings, not for ones built conventionally with essentially modern materials. These fallacies about the profession may be standing in the way of effectiveness. In the case of this building, restoration advice has never previously been sought.

For this study, the congregation was originally concerned with the leaks on the interior of the building, and the safety hazards feared from the steeple. The congregation's image of the work to be done was primarily of structural analysis, followed by repair. If information from architectural conservators had not been sought, and if restoration, not simply repair, had not become the framework for analysis, we would never have uncovered the causes or solutions to the problems. Simply, restoration is the framework for repair of existing structures. The techniques and analysis used in restoration are simply ways of looking at and exploring building problems. The theoretical and technical knowledge behind the analysis is appropriate to the complex problems found in existing buildings. The treatments for complex problems are often, themselves, complex. Without the theoretical and technical information that restoration research has provided, these solutions would elude us. Dealing with existing buildings is very different from dealing with new construction, both in analysis and solution of problems. If restoration work is associated only with old and precious buildings, then a whole body of information needed by any existing structure is by-passed. It behooves the restorers to become more a part of the building industry, so that their work is perceived as helping a build-

ing to grow old, not saving it when it is almost gone.

At the same time, there must be recognition that older structures are particularly special; they cannot, in most cases, be "repaired"; they must have a maintenance program which integrates restoration into repair. Contractors often do not recognize the particular needs or solutions to an older building's problems. This study has entertained a variety of solutions from contractors which are clearly inappropriate. Restoration and the contractor is, again, an issue where there is great conflict in methods and approaches; the danger to the client is that a contractor's advice is always available for free; restoration advice can be costly.

Aside from the analytic superiority of the restoration approach, restoration seemed appropriate to this church for two other reasons. First, the church is old, its architects are well known, and it is a good example of its type. Therefore, its appearance is important, and restoration techniques respect the issue of appearance. Second, as will be discussed further in the section on funding, public and private funding sources are now providing incentives for restoration programs. Money is available on a limited basis for projects like the First Baptist Church. Such money simply is not offered for a "repair" program, so the decision to emphasize the restoration of the building had financial, as well as technical and esthetic considerations.

The Building Analysis

For investigation of the building, the strongest piece of evidence was the building, itself. Despite the fact that some conditions were so generalized that their causes, or even sources, were impossible to isolate,

the building remains the answer to many of its own problems. Beyond this piece of evidence, there is its context: the site and wind conditions, orientation of the structure, and the history of the building. This history includes what has been done to repair and maintain the structure over the years. Finally, there is the whole question of theory and precedent; what has happened to other, somewhat similar, structures in similar climates, and, specifically, what are the technological answers and issues that this specific type of building, under these general conditions, raises. Obviously, these are very interactive issues, but the analysis of the building was put together from so many sources, with so many kinds of input, including contractors, architectural conservators, students, members of the congregation, and structural engineers, that piecing it all togehter to make sense has been very much a puzzle-solving effort. The final analysis is never the work of one individual, but its coordination is, and over time some parts of solutions have been hailed, and others discarded. Weeks later, as new discoveries or information has been added, what was discarded was reread and considered; what was hailed was discarded. This kind of analysis must continue if the restoration effort is to be successful; analysis and solutions are often still subject to trial and error. The field is an imperfect and evolving one, and the approach to problem-solving must recognize that.

The church presents specific areas of problems, such as the steeple, the roof and drainage system, the facades, leaded glass windows, and specific problem types. Generally, problems are related to moisture, though in some cases, moisture has aggravated, not caused, a specific problem. Other problem types relate to the natural life span of materials, and that

as materials needed care and maintenance, none was available, so that problems grew worse over time. Specific problem areas are discussed below.

Exterior Facades

A number of problems have contributed to deterioration of the brick and masonry on the exterior facades. The main problem has been water. Gutters, flashing, and vertical conductors are in poor condition in some areas. Their disrepair has allowed water to run down the face of the building rather than be drained off properly. Water is able to seep into some of the masonry, particularly the mortar joints. The freeze-thaw cycle then can act to destroy mortar and brick. Every tiny crack caused by the freeze-thaw cycle means there is a new place for more water to enter the brick. Bricks in back of the first course are generally not as good as exterior brick, so that damage is more easily done here. While the actual mechanics of the freeze-thaw cycle are now debated, it nonetheless seems clear that repeated freezing and thawing of water held in the bricks and mortar have allowed microscopic destruction of much of the exterior surfaces of the church. The overall result is that much mortar has been lost, and there is brick spalling. Now that there are many openings for further moisture, even wet-dry cycles pose hazards for the facades. The north (front) facade is in the most serious physical condition, including the steeple. The east facade shows a great deal of spalling and missing mortar, and the other facades also show evidence of this kind of deterioration.

Sandstone caps on the exterior buttresses show surface exfoliation. This problem is a more natural one, as it has been found that stone cut

against the direction of the bedding layers is prone to exfoliation. Some of the sandstone caps are in good shape; these were probably cut with, not against the bedding layers. Mortar joints around these caps are generally in need of repointing, as their deterioration has allowed water to get into the masonry.

About fifteen years ago, the exterior facades of the church were sprayed with silicone as a method for waterproofing the building. This fact was supplied to us by a member of the congregation, and it has since been suggested that silicone treatments are not only ineffective as waterproofing solutions, but that the silicone may accelerate deterioration of the building's materials. To what degree the silicone application is responsible for the spalling and cracking of the exterior brick is undetermined; one of its most dangerous results is that it made the client feel sure that the moisture problems had been dealt with as best possible, and no further solutions were tried. That the leaks on the interior persisted was somehow just accepted.

The Steeple

The steeple has presented the most complex set of problems to this study, Its current condition reflects the curves we can draw to show the rate of deterioration of a building that is not maintained. Often, a building that is not properly maintained can survive for a period of time, but suddenly, the acceleration of the deterioration rapidly increases, and in a relatively short time, it is in extremely bad shape, and the rate of deterioration will increase even more over time. On the steeple exterior, we see much spalling and cracking of individual bricks. There are

also broken sections of gutter at the roof and an open bell tower with poor drainage, which may help explain the small cracks and spalling. Just below the bell tower level of the steeple, an area of buckled brick can be seen. But, more seriously, the brick buttresses show some severe cracks, and some areas where the brick is pulling away from the steeple facade. There is no evidence of such cracks in the foundation rock. There is also no evidence of the entire steeple pulling away from the body of the church. Photographs of these cracks show that they vary in size and direction, but they appear to run right through the bricks, as well as around them, through the mortar joints.

The interior of the bell tower and steeple also shows some serious problems. First, as mentioned, the open level does not have good drainage. This is caused both by the uneven surface that the asphalt coating there provides, and also, by pigeon dropping, and other foreign matter, which has covered up the floor drain at this level. The water collected there is currently leaking through to the next floor level. Inside the steeple, the exposed interior brick walls show severe efflorescence. Efflorescence is a complex condition which results in deterioration of mortar into a white, powdery substance, and the appearance of white crystalline deposits on the surface of the brick. It renders the mortars structurally useless. The cause of this efflorescence has not yet been determined. The existing conditions in the steeple interior provide some clues: water is present through leaks in the floor above; there is no heat in the interior to help the moisture dry out, and no ventilation. Condensation is, therefore, clearly a factor to be considered as a con-

tributing cause to efflorescence.

All of these existing conditions have been considered in trying to determine the causes of the steeple problems. Many opinions have been offered on the cause of steeple problems. The conditions have been examined again and again. What is attempted is an analysis which takes into account the evidence at the church and the site conditions. Clearly, the steeple shows problems that are not evidenced elsewhere in the building. Always, the question is why there are so many more serious problems here than in other areas of the building. The advanced stage of many conditions in the steeple makes the cause-effect relationships very difficult to determine, and yet these relationships are essential for an appropriate solution.

The steeple is located on the north facade of the church, and is battered by storm (NE) winds. Each buttress is exposed to these winds and to other climatic conditions on three sides. In addition, the rigid brick and mortar construction allows little opportunity for movement, and while bricks are strong in compression, they are poor in tension. Severe storms and hurricanes may have caused the cracks in the steeple. The cracks over time have widened, and have become points of entry for water, resulting in increased deterioration of the building material. Since the gutters in the steeple area are in disrepair, water has been running down the face of the steeple and entering the cracks. With further movement, the cracks have enlarged, and the situation has progressed, probably over quite a long period of time, to the point where we now see it. The types of cracks which can be seen in the steeple are

definitely not freeze-thaw cracks, for they are far too wide and too general for this. Freeze-thaw may have aggravated the condition, but it did not cause the cracks. This explanation essentially responds to the evidence that the building presents: cracks almost exclusively in the steeple* (whereas, there is freeze-thaw damage on all facades), a 180 foot structure in the path of storm winds, of rigid construction with significant structural limitations. It is also significant that there appears to be no retaining or reinforcing system in the steeple, except corner-bracing at the two highest floor levels. This report assumes that most of the cracks are not new, and that they are an appropriate physical response for this building under the stated site conditions. The most serious cracks are found in the highest levels of the steeple, and there are the areas where the steeple stands alone, above the level of the rest of the church, where there is less chance for increased stability often offered by an abutting building.

While the cracks are an appropriate response, or at least an understandable one, the size of the cracks, and the advanced deterioration that they suggest is, again, a problem related to the maintenance of the building, and that the water and moisture problems have aggravated them.

The congregation has been very concerned about the steeple's safety, and, again, there have been many opinions offered on this. So far, there is no evidence of loss of material from the steeple or any potential harm to passers-by. Whether or not problems like this may de-

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*There is some evidence of cracking at the NW tower of the church. Again, the cracks occur high in the buttresses.

velop cannot be predicted with certainty, nor can the answer to the repeated question, "Is it going to fall down?" Again, there is no evidence that the steeple is separating from the main body of the church. The recommendation of this report is for immediate repair of the steeple, by the guidelines suggested in the section on solutions. Repair of the steeple should not be postphoned, as conditions are not stable, and can be expected to accelerate. The greatest danger posed to the steeple is a bad storm with very high winds, and if this should occur, the steeple should be watched very carefully for any evidence of loss of materials or further significant cracking. Certainly, the steeple should not be left in its current condition for long. It is the most important repair area in the building.

Stained Glass Windows

The First Baptist Church boasts some fine examples of very simple straightforward stained glass window designs. The most significant of these is the rose window on the north facade of the church. Like the open bell tower of the steeple, the exterior of the rose window has become a pigeon roost. Much of the wood casement appears to be in bad condition. On the interior, there are leaks and water damage to the interior finishes. There is an area of buckled brick below the rose window, and on the interior this area is often wet. There may be significant water travel through the brick to the interior below the rose window, and the window, itself, may not be air or water tight.

In the side stained glass windows, there is evidence of bowing of the glass. This may have been caused by a combination of physical issues,

including differential expansion of the materials, the weight of the glass, and the inherent malleability of the lead mullions. These are natural processes, but there have not been sufficient retaining rods to reinforce the glass, and the result is that many of the panes have moved and caved in. In addition, movement and separation of the glass panes from the lead has contributed to the building's heat loss problems. In the kitchen, interior plastic sheeting has been hung over the damaged windows because the drafts are so significant. The stained glass windows that have problems are exterior windows; the interior leaded glass appears to be in generally good shape, except for ones where panes are cracked and patching is needed. In some cases, doors with decorative stained glass features have no pressure door stops on them, and clearly, their banging shut can loosen and harm the panes of glass. Again, this is a simple problem of maintenance, but the situation has been allowed to persist, so that damage has resulted.

Sanctuary Balcony

Many questions have been raised by the congregation about the safety of the sanctuary balcony. After examination of the balcony by structural engineers, the sanctuary has been assessed as sound; slight sagging at the north corners of the balcony may have been a result of original cross-grain shrinkage of the supporting beams. There is no significant cracking or loss of plaster beneath the balcony, which would suggest movement. Some loose floor boards may account for the slightly unsteady feeling of the balcony, but this is easily repaired, and these appear to be no reason why the balcony cannot be used.

Organ Loft

The organ loft, above the altar, shows some evidence of sagging at the corners. The strength of the loft may not be sufficient to support the organ, or there may have been some settlement here over time. The loft needs further reinforcement.

Plumbing

Some of the interior leaks and paint and plaster damage are clearly related to plumbing and interior drainage problems. Pinhead leaks may have originally been the problem, but these were not fixed, and, in some cases, there is extensive damage to paint, plaster, and underlying lath. The situation will become progressively worse if the problems are not confronted at their source.

Interior Leaks

Interior leaks, in some cases, are caused by plumbing problems, and, in other areas, they are clearly related to exterior drainage and water problems. Particularly in bad weather, there are a number of active leaks in the sanctuary, and while some of these have been patched, the problems have not been confronted at their source, the gutters, window framing, or the deteriorated masonry, so that the problems have persisted, and the patches, in turn, have become areas of deterioration.

This analysis does not cover all of the building problems at the First Baptist Church, but explores the major ones. There have been many disputes about parts of the analysis; clearly, all consultants who have examined the building have different biases and specialties. What is

clear is that moisture and water are major culprits; these are the aggravations and, in some cases, the sources of the major building problems at the church. It is also clear that the building is an unusual and unique case, as are most churches, for its architectural and structural features are not common, but very special. As such, and in the case of many churches, the solutions are unusual and often complicated. The commitment to solution and to a total repair of the building is needed; a piecemeal solution is a false economy for the building.

The Proposed Solutions

Two actors are essential to a good restoration program: the project manager, who, in this case, should be an experienced architectural conservator, and innovative and flexible contractor, who is interested in the project and in the problems of restoration work, in general. The contractor's attitude is important, because during the work many new and unusual solutions will be tried; some of the standard procedures will be rejected for technical reasons, and the work will be decided more on a day-to-day basis than occurs in new construction. This study has made an effort to get estimates on the work from contractors who have successfully worked in this way in the past. In all cases, contractors consulted have insisted that a project manager be retained for the duration of the work.

The role of the project manager is both contractor-and client-related. The client must be kept fully informed of the problems and processes in the work, particularly where there may be inconveniences in use and appearance to the users while the work is going on. In the case of the First

Baptist Church, this communication is particularly important, because the congregation must represent accurately what is going on and being planned at their church as part of their fund-raising and support-building program.

Procedures for repair of the church are complex. Many solutions have been studies throughout the course of this study, and this section presents a final framework for the solutions. The suggestions in this section are certainly not specifications. Many changes will be made in the repair program as the work proceeds, and new discoveries or setbacks occur. The following program serves as an outline for restoration and repair at the church.

Further Investigation

The first stage of work is one of further analysis of specific materials and problems. The time of this report and its various diverse emphases have not permitted thorough examination of issues like the cause of efflorescence on the steeple interior, or the choice of repair materials to be used. All of the technical decisions of replacement mortar composition, type of flexible epoxy, type of replacement brick should be made before the work begins.

During this period, a number of further investigative procedures may be carried out, including removal of the efflorescence with a vacuum and analysis of the existing mortars in the building.

Masonry and Exterior Surface Repair

Erection of staging: As the steeple and north facades are probably the first areas of work on the church, a staging would be erected for use

by roofers and masons. The duplication of this effort is an unnecessary expense; while roofers and masons may have to work around each other a bit, the work can be carried on during the same phase of restoration. A pipe staging will probably be used, with horizontal scaffolding running around the front facade and steeple.

Preliminary cleaning: When repointing is intended, most contractors insist on a preliminary cleaning of the surface to be repointed. The cleaning is intended to remove loose mortars so that hand work is easier, and to provide a better binding surface for new mortar. Many of the cleaning methods, when examined, are clearly inappropriate to the building, and a number are potentially very harmful. Cleaning methods to be rejected include wet or dry sandblasting (also called cleaning with aggregate), as this is too abrasive for the brick and mortar, as well as for the sandstone trim; steam and water jet, which would soak the building and allow water into the opened cracks, and so-called 'muriatic acids', a form of hydrochloric acid, which can cause efflorescence, staining, and dissolve mortars. If the building must be cleaned, a step which is not endorsed in this study, it should be done with a chemical detergent, applied manually, and selected in advance for the specific brick and mortar type in the building. Cleaning is not really necessary in this case; a good surface can be provided through proper clearing of the individual joints. Loose mortars can be removed at this time; the cleaning step makes the contractor's job easier, but it may not be in the best interests of the building.

Removal of existing mortar from joints: As part of the repointing process, existing mortar must be removed from joints. This may not be

necessary for 100 percent of the building. Areas where brick and mortar are substantially intact should be left. Again, these are local decisions for the contractor and project manager, but they will save the client money and are important.

Traditionally, joints are cleared by hand with hammers and chisels. The slim mortar joints in this building make this a difficult process, as one slip can mean destruction of a brick. A more effective process involves using a power-driven chisel with a point tapered to the size of the joint. The vibration and speed of the chisel can be controlled, and this method has been used successfully in other, similar situations.

Repointing, caulking, epoxying: A combination of masonry treatments is suggested for the steeple cracks. Repointing with lime mortar is recommended for the facades and the steeple masonry; and epoxy and caulking compounds should be carefully selected for use on the steeple. This combination of treatments raises a number of issues. First, where replacement material is used, such as new bricks and mortar, the new material must be carefully matched to the old. This is not just an issue of appearance. Each type of brick or mortar compound has distinct material properties. When dissimilar materials are used, their respective coefficients of thermal expansion must be recognized. Forces exerted by materials on other materials may cause further cracking and deterioration of the materials. We can already see some evidence of this in previous repointing and replacement work on the facade, where cracks have developed at the edges of the brick and through the mortar. It will be necessary to replace some of the exterior brick, particularly where deterioration is very advanced,

or where bulges in the brickwork are found (such as below the rose window, and below the lancet windows in the steeple). Some bricks may be borrowed from other parts of the building, particularly for areas for repairs that are highly visible. But, in general, a matching brick will be needed, and the necessary dimensions, color, and material qualities, such as expansion coefficient and porosity, will make this selection a difficult task.

Second, like mortars and bricks, caulking and epoxy compounds should be determined well in advance. The compounds selected should be flexible, not rigid materials, to allow for the movement in the steeple. The compounds would be applied, or in the case of a flexible epoxy, injected into cracks in the steeple buttresses. The cracks will first be cleared out, and local decisions will be made as to the proper treatment for each crack. Epoxy will provide an extremely strong bond, and by closing the crack, allows for water resistance. Caulking may be selected for cracks where there is less danger of structural failure of the bricks. It, too, will provide a water barrier. The use of these compounds allows for treatment of the interactive problems in the steeple buttresses. Flexibility of the materials used allows for movement, but retains the materials, structurally, by the strength of the epoxy, and fills the cracks with a very low porosity material, so that water may not travel through the cracks. It is crucial to the success of these repairs that essentially flexible materials be used; rigid materials might mean that new cracks would develop in the buttresses from movement. Flexible materials will mean that the movement is allowed, but without cracking.

Third, pigmentation of the caulking and mortar may be an issue. It

has been suggested that only natural pigments should be used to match mortars or other patching materials, because synthetic pigments may cause accelerated deterioration of mortars. This is still an open issue, and further investigation is needed for a decision on pigmentation.

Final wash: Contractors generally suggest cleaning the exterior surface after repointing and other masonry treatments are completed. The cleaning is intended to remove any stray drips of mortar or other material on the facade. Again, cleaning can do more harm than good, particularly as most of the recommendations for final wash have been to use so-called muriatic acid, which may remove stray mortar, but will also dissolve good mortar. Most cleaning methods are clearly too abrasive or potentially harmful for the surface, and it is recommended, instead, that stray mortar and other materials be removed manually by tapping lightly with a hammer or some other blunt tool. Mortar in the joints will weather back naturally; this weathering process should not be forced.

Steeple interior: Efflorescence found on interior exposed brick will be removed as part of further investigation of the building's problems. As the causes of the efflorescence are determined, which they have not been in this report, decisions can be made as to repointing or other masonry repairs. The solutions for the interior of the bell tower may also be to heat and properly ventilate the area, reducing the humidity and, therefore, the condensation, and allowing any moisture to dry out.

Screening bell tower: The open bell tower level of the steeple can no longer be a roost for Central Square pigeons. Total closure of the lancet windows is inadvisable, since proper ventilation is needed. A

simple solution is to install a wire mesh screening at the tower openings, which allows air through, but keeps pigeons out. Before screening is installed, areas where wood is framed into masonry should be cleaned, scraped, caulked, and repointed.

Heating system: As part of the maintenance program, and to insure that materials are able to dry out properly, a heating system should be operating in the church. The sanctuary and ell should be kept at 65 degrees minimum, and spaces should be well ventilated. Lack of ventilation and heat can be blamed for some of the damage found in the facades, and initially, it is important that the facades and steeple be relatively dry before work is begun. Work should be done during dry, clement weather, and the buildings should be well heated, starting now.

Other facades: Initially, work may be confined to the steeple and north facades, as these areas are in the most serious condition. Eventually, all facades of the church should have major repointing work done. The timing on these repairs will be discussed as part of the section on timing repairs, but the methods used on these facades will be similar to work already described. Since there is no evidence of movement cracks on these facades, the work will involve clearing out existing mortar joints, and repointing with a lime mortar. Epoxy and caulking work may not be necessary anywhere in the building, except the steeple, and again, there may be areas where masonry is in good condition and repointing is not necessary.

Roofing and gutter repairs: The program for roofing and exterior

drainage repair can be undertaken in coordination with each section of exterior masonry repair. Without these roofing, gutter, and flashing repairs, masonry repair will not be thoroughly effective, as some of the causes and aggravating conditions of the problems will have been ignored. The following program is suggested for the roofing work; again, allowing for variations as the work proceeds.

1. Replacement of entire copper gutter system around roof edges.

Patching or section replacement of the gutters would be a piecemeal and short-lived approach. The effects of ice, snow, and moisture would wear the seams of these patches considerably, so that replacement of the entire system insures a more long-term and economically worthwhile investment. Use of alternative gutter materials like fiberglass, would cut the cost of copper considerably, but so far, contractors in this region seem unwilling to use fiberglass, though it is being used successfully in other parts of the country. Use of this kind of material should be explored further, as it could represent a tremendous saving in material costs.

2. Replacement of all vertical drains (conductors).

Conductors, the vertical drain system, should have been replaced years ago. Costs of replacement can be cut by the use of aluminum rather than galvanized iron. Aluminum will wear better and can be used in this case, because of the predominantly straight line design of the conductors. Some elbows and offsets are required, but simple slip joints can be made in aluminum. The aluminum, however, will need to be painted regularly,

as part of the maintenance program.

3. Removal of asphalt; repatching with copper.

Many valleys, roofs, copper belts, and crickets have been covered with coatings of black asphalt. This material is now brittle and cracked; it was a poor solution from the beginning, and in some cases, has aggravated, not reduced, leaking problems. As asphalt becomes brittle over time, its cracks allow water to be trapped between the asphalt and copper layers, and water can seep through the bad copper. This, again, is partially a problem of two different materials, with different coefficients of thermal expansion, moving against each other. The asphalt must be removed, and then the copper beneath it replaced. It has been suggested that pigeon droppings, with high acidic content, can damage copper, so the choice of type of copper replacement material is another important material decision to be made in advance. Many new copper products are now available, some with teflon and electroded surfaces, and these may be better choices than traditionally long-lived 20 ounce copper. Specific locations for copper replacement include parapet flashing, the floor of the open bell tower level of the steeple, valleys between main gables, the copper cricket which leads into the slate roof, and the copper belt above gutters on the Magazine Street side of the roof.

4. Replacement of some roof slates.

While the slate roof seems to be in generally good repair, some broken and damaged areas of slate should be replaced. The colors should be matched as closely as possible. Salvage slate may be used as replacement material, and Maine Munson slate has been recommended for grey slate

replacement, and Vermont red slate, which is still produced, could be used to replace the red slate.

Phasing and Costing the Restoration Work

It would be most desirable to have the total restoration program implemented at the church as soon as possible. Limitations in funding may preclude an all-out effort, and it may be necessary to phase the work according to priority of each work-type and area, over a period of years. This is possible, but it is important that some work, such as that on the steeple and north facade, be undertaken as soon as possible.

To estimate costs of repair work, a number of contractors with background in restoration work were consulted. Some of their estimates are included in this report. The work they suggested was modified for the estimate presented as part of this report. Often, work they costed was considered inappropriate or unnecessary, and in all cases, their estimates are considered at the high end of costs, probably for protection. Inflation and materials costs increase will also affect these estimates; in the roofing industry, such cost increases have recently been as high as 1.5 percent per month, or 18 percent per year. Estimates also reflect the need for special materials and unknown quantities of expensive compounds like epoxies. As further investigation and work on the building proceeds, the amount of materials needed and specific costs can be calculated more carefully. For the purposes of this report, a phased program over a period of five years, with accompanying costs, follows. The repair program relies on an effective maintenance program to be implemented

with it.

Phasing and Costs of Repairs:

Time	Work	Costs
Year 1	Work on steeple and north facade	60,000
	and corresponding areas of roof and drain system	13,846
	Installation of exterior glazing surface	5,000
	Plumbing repairs	2,000
	Steeple screening and ventilation	2,000
	Organ loft reinforcement	2,000
	Project Manager's fee	5,000
	Total	89,846
Year 2	West facade work	10,000
	with corresponding roof areas and drainage repair	13,000
	Interior refinishing (paint and plaster)	3,000
	Fee to Project Manager	1,500
	Total	27,500
Year 3	East facade	10,000
	Roofing	13,000
	Project Manager's fee	1,500
	Total	24,500

Year 4	South facade and roof area	23,000
	Project Manager's fee	1,500
	Total	24,500

GRAND TOTAL $166,346

*1. The repair program should be accompanied by an ongoing maintenance program, on which the owner would plan to spend around $20,000 per year. See section on "Financial Burdens."

2. All figures quoted are approximate.

Estimated Costs for Repair and Restoration

at the First Baptist Church, Cambridge:

(list incomplete - 3/10/75)

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1. Roof, Gutter, Repair

Consulted: Penshorne Roofing Co.
28-30 Carolina Avenue
Jamaica Plain, Mass.

(1) Front (north section) roofing work

Including:
- 20 oz. copper gutters around steeple
- 20 oz. copper roof inside steeple
- 20 oz. copper cricket behind steeple
- 20 oz. copper base flashing on all front parapet walls of steeple
- 20 oz. copper flashing on all front parapet areas of main building
- 2 20 oz. copper gutters and conductor (aluminum) pipes from the front entrance roof

Cost: $13,846.00

(2) Gutter repair

Total replacement, including copper belt on Magazine Street side
Discounting work on front and steeple,
using 20 oz. copper:
Cost: $ 9,359.00
using 16 oz. copper:
Cost: $ 8,894.00

(3) Conductor pipes

Replacement with new aluminum 4" round corrugated conductors (with necessary elbows), including painting
Cost: $ 1,320.00
Installation in galvanized iron
Cost: $ 1,275.00

(4) Valleys

All valleys in slate roof to be replaced with 20 oz. copper valleys--removal of black asphaltic material		
Cost:		$ 5,985.00
Replacement with 16 oz. copper		
Cost:	$ 5,850.00	
Replacement of large section of flat roofing between right wing and main church with 20 oz. copper		
Cost:		$ 5,964.00
with 16 oz. copper		
Cost:	$ 5,678.00	

(5) Slate repair

Roof thoroughly checked and slates matched and replaced		
Cost:		$ 3,694.00

(6) Cricket

Installation of 20 oz. copper cricket between vertical wall of steeple and slate roof on sanctuary (removal of asphalt)		
Cost:		$ 2,075.00
16 oz. copper		
Cost:	$ 1,897.00	

(7) Parapet flashing

Installation of 20 oz. copper base flashing at all parapet walls, the rear ell, gable entrances, and all other junctions of roof where parapet flashing exists		
Cost:		$ 9,365.00

(8) Ridging

Installation of new copper ridging on main church (fastened to existing crockets)		
Cost:		$ 2,360.00

Total roof repairs

(with 20 oz. copper)		$53,936.00
(with 16 oz. copper)	$52,827.00	

(1) 20 oz. copper is recommended for increased life span and durability over 16 oz. copper.

(2) These estimates do not reflect any increase in size of gutters or unusual alternative gutter design. These possibilities may be considered as work becomes a reality. The current gutters may be too small to do their job effectively and new ones may need to be larger.

2. Steeple Repair

Consulted: The Waterproofing Company - Charles Ford, President, Boston, Massachusetts

(1) Steeple Exterior

(total exposed area, not including slate spire)

Including:

Erection of scaffolding
Water jet and aggregate wash (cleaning)
Raking of mortar joints and 100% repointing
Flexible epoxy injection and
Caulking of major cracks
30% replacement of brick
Resurfacing of sandstone caps
Final (muriatic acid) cleaning

Cost: $41,000.00

(2) Steeple Interior

Includes areas of exposed brick

Erection of scaffolding
Wash
100% repointing
Final cleaning

Cost: $11,000.00

(3) Front (north) Elevation (excluding steeple)

Erection of scaffolding
Wash
100% repointing
Final cleaning

Cost: $20,000.00

(based on cost $8.00/sq.ft. repointing)

(4) Other Facades

Erection of scaffolding
Wash
100% repoint
Clean

Cost: (current)

(approximately $3.50/sq.ft. of area)

Total for Steeple and North Elevation: $82,000.00

2A Steeple Repair

Consulted: William A. Messina Company, William Hanna, President, Cambridge, Massachusetts

(1) Steeple Exterior

Including:

Erection of scaffolding
Cleaning
Rebuilding all buttresses showing severe cracks with new and salvaged brick
100% repointing of bricks and sandstone

Cost:	$35,625.00
Cleaning:	4,400.00
	$40,025.00

(2) North Facade

Including:

Erection of scaffolding
Cleaning
100% repointing
Recaulking rose window sash

Cost:	$13,605.00

(3) Other Facades

Including:

Scaffolding
Repointing
Cleaning

Cost:

Rear Elevation	$10,375.00
Left (Magazine Street)	$10,375.00
Right (River Street)	$13,950.00

illustrations

LIST OF ILLUSTRATIONS: RESTORATION AND REPAIR

Plate

1. Steeple buttress cracks, long view at back of steeple.

2. Further buttress cracks at base of steeple. Note condition of brick, which shows mortar loss and freeze-thaw damage.

3. Buttress crack at bell tower level of the steeple.

4. Buttress crack, showing exfoliation of sandstone cap.

5. Replacement brick in a buttress; note spalling of some of original brick.

6. Brick wall, front facade of building, showing ice sitting on the wall on a cold January day. The gutter above is broken.

7. View of brick inside steeple, where severe efflorescence has resulted in powdery deposits on brick and deterioration of mortars.

8. View of interior of steeple at basement level. After a rain of thaw, this interior wall literally runs with water. There is no evidence of damage to the foundations, however.

9. Caving of stained glass windows.

Plate 1

Plate 2

Plate 3

Plate 4

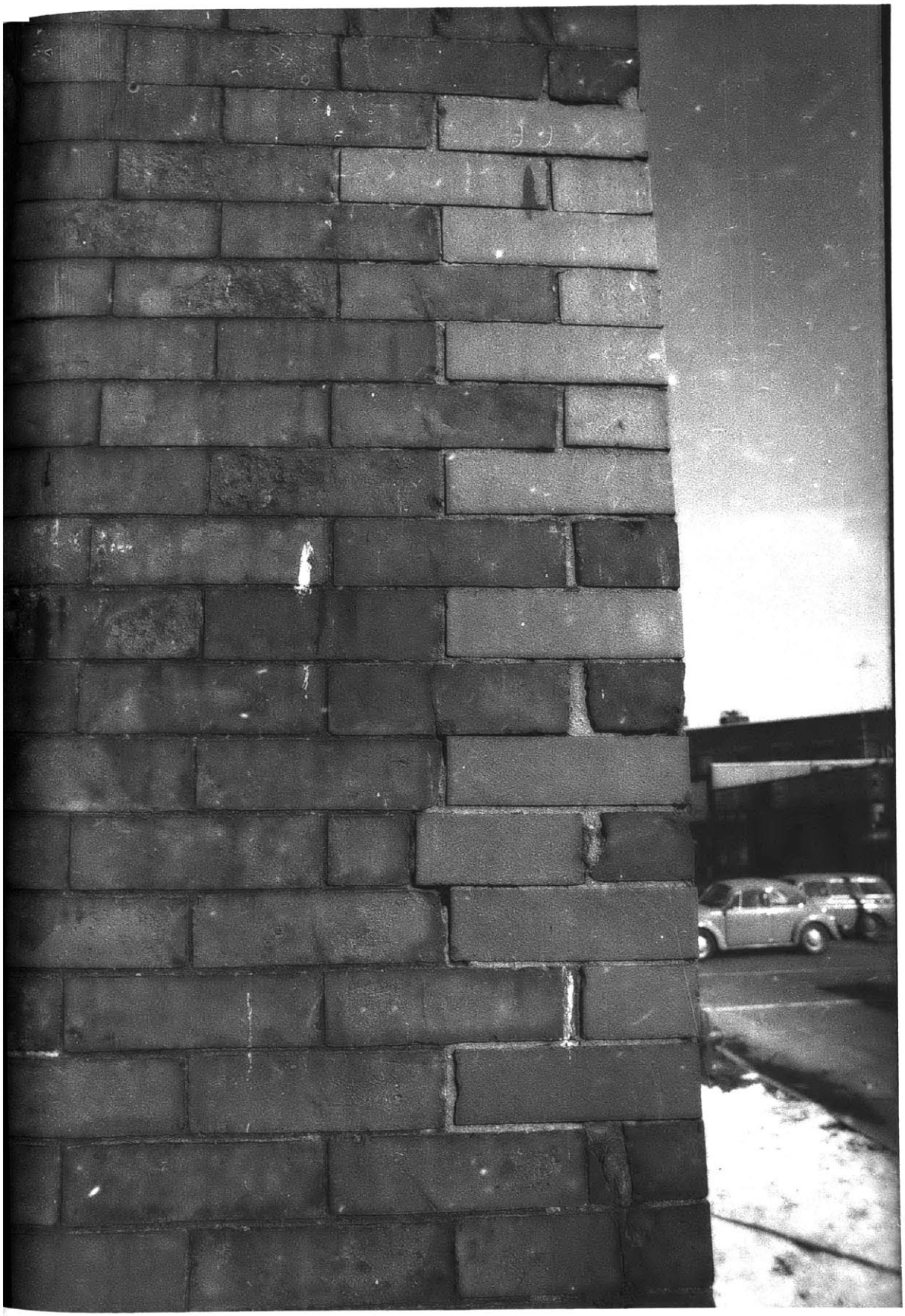


Plate 5

Plate 6

Plate 7

Plate 8

Plate 9

Funding Sources

A variety of private and public funding sources are available to restoration projects. Critera for funding, stipulations attached to grants, size of awards vary, but in general, the past few years have seen an increase in awareness on the part of city, government, and private foundations for restoration projects like the First Baptist Church. Some generalizations about funding can be made. First, a general criterion applied to buildings considered for restoration grants is that the building be included on or at least proposed for the National Registry of Historic Places. Here, the church meets the stated criteria. Another general stipulation is that grants be matched by an equal sum acquired from another source. A variety of grants from different sources are possible for this project, so the church may be able to meet this criteria, as well. The final issue that public or private funding sources are interested in is the future of the building, the life of the church, and what kind of community support the church has, as well as what kind of public activities go on in the building. Basically, they want to know about the church's community commitments and leadership potential.

Originally, this report recognized the possibility for a coalition of congregations, centered at the First Baptist Church. A United Parish would at least start with an increased base of people and with possible pooled endowments and monies from sale of vacated church property. Financially and community-wise, this move would strengthen the First Baptist Church's position for funding and recognition. The leadership

potential of the new United Parish would also be increased, and funding relies on strong, active leadership.

To stimulate funding, the congregation needs a broad-based program for solicitations from local business, banks, and city agencies. If the project is well publicized and obviously supported by community leaders and community groups, it stands a far better chance for receiving donations and grants. It should be publicly demonstrated how a restoration and adaptive use program could contribute to the quality of Cambridgeport community life. Both open meetings, where the parish discloses its plight and plans, as well as fund raising events, could be held. Something as simple as a "Save the Steeple" program could be launched to begin the campaign. A funding director is needed, and might be from the congregation. Other churches experiencing similar problems should be consulted, and experiences and strategies shared. In a case where mortgage loans may be sought, sound financial counselling is essential. In talking with Central Square banks about the church's problems, it has become clear that a loan would be possible if the church can ably demonstrate that it has a real future on the site, programs to fully utilize the building, and widespread community support. Unfortunately, the church's past annual reports show how little money there is, and how small a budget they have been operating on. While endowment funds might be used as some kind of collateral for a loan, it still would not account for a large sum, and there would probably be much opposition in the current congregation for offering endowment funds as collateral. Clearly,

a coalition of congregations makes this kind of fund raising program a stronger possibility.

As this study proceeded, the coalition became a vaguer hope. As discussed, many congregations want to hang on to their buildings as long as funds last. Without the coalition, the leadership potential and community support diminishes. Members of the congregation are willing to entertain the thought of fund raising, but question their future on the site, and the future of their congregation; therefore, expressing their concern about the long-range purpose for saving the building.

It is clear that a congregation of such limited size and uncertain future, would have a more difficult time gaining support from private and public grantors. The issue of community support is still essential, and the church may have to demonstrate what its role in, and services to, the real Cambridgeport community are. An active program of recruiting new community uses for the building has been suggested in this report. Again, it relies on active leadership for enactment. Through such an ongoing program, the church could ably demonstrate the services it provides to the community and gain community support for funding. Again, decisions on this kind of action are in the congregation's hands. The congregation needs advice and guidance on the decisions to be made; the building problems are immediate and repair cannot be postponed.

In the area of funding, the first efforts were to find out what specific programs and grant sources existed that might help the First Baptist Church. Mindy Arbo, formerly with the Massachusetts Historical

Commission, and an active Cambridgeport resident, was retained to research grant sources and complete applications to those sources with imminent application deadlines. Her discoveries about potential funding sources led the study to many issues, like leadership, the coalition, community support, and the future of the congregation, which were crucial funding information and also crucial issues facing the congregation. Ms. Arbo provided the study with a Grants Package Report, which follows this section. It is notable that the church can apply to these sources year after year, and eventually, such grants might help the church with maintenance rather than restoration programs. The process of funding beyond these initial steps should be to develop a base of community support for the project, and try to get a church-sponsored funding drive off the ground. These moves rely on leadership and activity, and are clearly a crucial role for the congregation, not consultants, to play.

GRANTS PACKAGE REPORT

The completed grants package for the First Baptist Church consists of:

1. Application for matching grant from the Massachusetts Historical Commission (National Park Service Grants-in-Aid Program)

   Filed: March 11, 1975
   Amount requested: $131,000
   Amount expected: $8,000-$10,000
   Notification date: November, 1975 (after which plans and specs must be submitted and approved before money can be allocated)
   Allocation date: January, 1976
   Grantor: Stephen Snell, Grants Manager, Massachusetts Historical Commission, 727-8470, in conjunction with Charles Sullivan, Director, Cambridge Historical Commission, 876-6800, ext. 346

2. Application for exterior restoration grant from Bird and Son, Inc.

   Filed: March 27, 1975
   Amount requested: $5,000 (maximum Bird grant)
   Amount expected: $2,000-$5,000
   Notification and Allocation date: June, 1975 (Bird money can be used to match MHS money)
   Grantor: Stewart Laughlin, Historic Grant Program, Bird and Son, Inc., Walpole, Ma., 1-668-2500

3. Informal inquiry to Cambridge Historical Commission re: Community Development monies

   Amount expected: $10,000-$15,000?
   Notification date: August-September, 1975 (at this time, hearings are held at which the formal proposal and request would be made. At this time, in order for FBC to be able to receive any Community Development monies, a strong base of community support, including the backing of RCCC, would have to be shown. Specific community uses, extant or seriously planned, would also have to be in evidence.
   Grantor: City Council, Cambridge, through the Cambridge Historical Commission

4. Letters of grants inquiry to the following foundations (with preservation interests):

   Eva Gebhard-Gouraud Foundation
   L.A.W. Fund
   Richard King Mellon Foundation
   Dula Educational and Charitable Fund
   Mabel Louise Riley Foundation
   J.M. Kaplan Fund
   Sarah Scaife Foundation

   Sent: April 17, 1975
   Amount requested: Total $56,000
   Amount expected: $10,000-$56,000
   Notification date: Open

5. List made of 22 foundations (Massachusetts) which have funded religious and/or community development projects, or which have a broad range of interests. This list can be used by FBC for future grant inquiry letters.

   (See enclosed list)

   Sources consulted:

   Foundation Center Directory, Edit. 5
   Foundation Directory of Massachusetts
   Taft Information Service (Foundation print-out)
   Stephen Snell, Grants Manager, Massachusetts Historical Commission
   Bill Hart, Director, New England Field Services Office of National Trust for Historic Preservation
   Charles Sullivan, Director, Cambridge Historical Commission
   Tom Savage, S.J., Cheswick Center

All replies to applications 1., 2., and 5., will come to Mindy Arbo, 47 Henry Street, Cambridge, 868-3522.

I will then contact the church of the results, unless other arrangements are made.

-- Mindy Arbo
April 17, 1975

FOUNDATION LIST

Foundation	General Purpose or Interest
Hayden Foundation 140 Broadway New York, New York 10005	Church capital projects, often to do with youth
Edward C. Johnson Fund c/o Mrs. Sarah B. Wheeler 35 Congress Street, Room 1151 Boston, Mass. 02109	Church
Fisher Foundation c/o Boston Safe Deposit and Trust Co. One Boston Place Boston, Mass. 02106	broad
Paul and Edith Babson Foundation c/o Donald P. Babson 210 Newbury Street Boston, Mass. 02116	Church
Roger W. Babson Charitable Trust c/o Leonard Spangenberg 90 Broad Street Babson Park, Mass. 02157	broad
Cabot Charitable Trust 125 High Street Boston, Mass. 02110	Church, broad
Permanent Charity Fund 100 Franklin Street Boston, Mass. 02110	Church
Spaulding-Potter Charitable Trust E.C. Struckhoff, President 10 Post Office Square Boston, Mass. 03301	broad
The Cornerstone Charitable Foundation c/o New England Merchants National Bank 28 State Street Boston, Mass. 02106	Church

Foundation	General Purpose or Interest
The Ellison Foundation c/o William P. Ellison 129 South Street Boston, Mass. 02111	Church
Fidelity Foundation c/o Chester Hamilton 35 Congress Street Boston, Mass. 02109	Conservation and 'the arts'
Henderson Foundation c/o Barclay G.S. Henderson 892 Worcester Street Wellesley, Mass. 02181	Church
Hood Memorial Fund c/o Gilbert Hood Six Everett Avenue Winchester, Mass. 01890	Church
Mabel Attorne Trust c/o the First National Bank of Boston 100 Federal Street Boston, Mass. 02110	broad
The Jeppson Memorial Fund c/o Norton Co. Worcester, Mass. 01606	Church
Sagamore Foundation c/o Woodstock Service Corp. 100 Federal Street Boston, Mass. 02110	Conservation and museums
Clara Endicott Sears Trust c/o New England Merchants National Bank 28 State Street Boston, Mass. 02106	Conservation
Stearns Charitable Trust 24 Federal Street Boston, Mass. 02110	Building funds for hospitals and museums

Foundation	General Purpose or Interest
Stevens Foundation Two Johnson Street North Andover, Mass. 01845	Church
Vingo Trust II c/o William A. Coolidge 70 Memorial Drive Cambridge, Mass. 02142	Churches known to Mr. Coolidge

THE CHURCH and ADAPTIVE USE

Process:

In working on the adaptive use section of this study, it was important to contact a variety of sources in the field of adaptive uses, as well as people close to the specific case of the First Baptist Church. Again, businessmen, realtors, city officials, and merchants gave valuable information about the market conditions and needs which they saw in Central Square. This information was gathered primarily through informal personal interviews, phone conversations, and community and congregational meetings. In the more general context of the adaptive use issue, the Cheswick Center, in Cambridge, Massachusetts, which has been studying the problems of alternative uses for church property, gave valuable information and insights into the problems and precedents of these programs, and their managerial and financial implications. Clearly, more work should be done in this area, and the Cheswick Center has agreed to continue in an advisory capacity to the church, following the completion of this report.

Architects and real estate developers, previously or currently involved with adaptive use projects of mill buildings, school houses, warehouses, and mansions, were consulted for their thoughts on design and development strategies for their own, and for this project. The study has partially been aimed at seeking a way, or even method, of looking at older buildings to decipher their adaptive use potential, and to work with existing structure and design to develop a new and appropriate set of uses. Certainly, the majority of experienced adaptive use designers agreed that

church buildings would be more elusive spaces to redesign and re-use; there simply are not many strong examples of churches which have undergone this architectural process. Many assumptions were made about the space as it was analyzed, and some issues re-emerged over time that must face any adaptive use design for an older, important building. These issues include: whether or not one has the right to really modify an historic structure, and if so, what should be left untouched, and what changed? How can the space be used so that there is a relationship made between that which is new, and that which is old, and what is that relationship? Specifically, are there new or even coordinate activities that are clearly inappropriate in a church building? What are our perceptual and psychological barriers to the adaptive use of a church? All of these and more, similar, issues deserve attention and discussion, and are central attitudes which the architect must develop.

The process was also one of interaction with the congregation. Early in the study, a representative from the congregation was asked to work with this study, and there have also been a number of meetings with the church's building committee. At these meetings, the restoration program and the developing suggestions for adaptive uses in the church have been discussed. After each meeting, adaptive use was rethought; the meetings were forums where people expressed their concern about the future of the church, but also about the difficulties they felt they would have in running an adaptive use program. Many of the psychological barriers against adaptive use were expressed at these meetings.

Adaptive use of the First Baptist Church is not a closed issue.

As the study emphasized process, not product, the process continues, and there will be further dialogue with the church, and, perhaps, with the community, over the issue of adaptive use. The study provided a basis for thinking about what might work for the First Baptist Church.

The Issues: Barriers to Adaptive Use

Adaptive use of abandoned and under-utilized churches is becoming an increasingly important political, planning, and religious issue in the United States and abroad. Commissions exist in England and the United States to study the problem, and the scope of their study includes the problems of disposal of church property, and development of lasting managerial relationships between the church and the new users.

There are a variety of examples of churches that have sold their properties for new uses, but there are fewer precedents that demonstrate how a congregation can develop new uses for their building that allows for shared use. In Boston, there are examples of churches that share their facilities with theatre groups (such as the Church of the Covenant in Back Bay) or house programs for the elderly (in Boston, St. Paul's Cathedral, and in Cambridgeport, the Pilgrim Congregational Church), as well as day care centers and educational facilities.

These uses generally help offset some of the costs of maintaining the facilities. Less lucrative, but still important, adaptive use programs include counselling and neighborhood help centers, but again, there are relatively few examples of this type of re-use.

A variety of attitudinal and psychological barriers have blocked more effective adaptive use programs in churches. These attitudinal issues are, in a way, more difficult to deal with than the legal and zoning barriers that may block such a program. Often, internal congregational problems, conservative versus more liberal attitudes, older versus younger members, get so involved in attitudes and disputes that cohesion, and therefore, collective decision-making, is impossible. These attitude problems on the inside often center on what new uses are compatible with ongoing church life, and the conflict can extend to larger issues of the purpose of the church, and the profanity of a non-religious activity in a religious, and often sanctified, space. Even on the outside, there are many who object to new uses a church chooses, and to their fund-raising activities, which may offend some as gambling, or where liquor may be served. These are often deep-rooted values, and, in many cases, an adaptive use program must conform to a specific set of beliefs and values, not to specific financial issues and market needs.

Beyond these personal psychological barriers, there are legal and zoning barriers that may affect adaptive use programs in churches. The tax status of churches, as non-profit institutions, provides that they may engage in fund-raising activities and may invest their portfolio, or endowment, which, in this case, includes their real estate. But they remain free from tax only if the rental of their building is to other non-profit organizations or uses, not if they undertake a business real estate venture. Any academic, charitable, or other non-profit use could avoid taxation at the church, but the church would be taxed on its adap-

tive use income when it began to become a quasi-commercial landlord. The church could simply elect to pay taxes on its incom from the new activities, as their endowment would still remain untaxed, but there are barriers here with a congregation which suddenly is met with taxation, and therefore, feels it has become a business, not a church. These matters are complex, and a variety of managerial arrangements can make them far from a cut-and-dried issue, in the eyes of the legal profession and the federal and state governments. Tax status is a different sort of barrier to adaptive use of a church, and it is one where the church will need access to experienced legal advice. Plate 9 outlines the basic relationships between real estate and corporate income taxation and different uses for a property held by a non-profit organization. One thing that this study has uncovered is that not all professionals in a specific field, in this case, tax law, are able to satisfactorily answer questions about cases like the church. It is an unusual case, and a highly specialized field; this makes the quality of the advice that the church needs more difficult to tap.

The city or town in which a church is located may, through local law, like "blue laws", and through zoning, restrict activities that occur in a church. If the church is located in a residential district, some community services, such as drug or medical care facilities may be prohibited from the area; if the church wishes to open a restaurant, there may be laws which prohibit sale of any alchoholic beverages near the church. In the case of the First Baptist Church, its zoning is

Business, "B", a relatively loose category, but there are definitely Massachusetts State laws which prohibit the sale of alcoholic beverages within a 500 foot radius of a church. It is not likely that this restriction would affect an adaptive use program that was congregation-coordinate, as the Baptist Church opposes consumption of alcohol.

Other issues facing the building include fire and safety and building codes, which may make it more expensive to re-use the space than anticipated. The First Baptist Church is fortunate in the large number of exits from the building; after discussion of the adaptive use possibilities with fire safety officials, it appears that their fire code problems would be minimal, involving installation of fire doors and use of fire rated partitions and materials in any proposed renovations. There might be some stairwell changes needed, but again, these are not major. The building is not required to sprinkle, as it is below the height limitation, but installation of fire extinguishers and some smoke detection devices is desirable. Any proposals for a restaurant would involve more stringent fire precautions. Many of these changes to meet codes should have been enacted at the church long before: the churches on the site have twice been destroyed by fire, yet there are no fire precaution measures at the church, except in the number of exits, which does not help the building, and a rule that there is no smoking, which is often not enforced.

The new Building Codes that Boston has enacted also complicate adaptive use of an older building. Particularly in the case of a major

redesign of the sanctuary, these codes would affect issues like open staircases, as well as choice of materials and satisfactory load conditions. The codes are strict, and have begun to severely limit adaptive use design in older buildings throughout the state.

Thus, the barriers to adaptive use of a church may begin to explain why so few churches have been able to successfully implement lasting programs in adaptive use. Beyond these issues are problems of management of adaptive use programs, and the relationship between church management and the new user can be a difficult one. Naive versus non-naive adaptive use is the issue here, and some precedents in success and failure can indicate what kind of managerial and use problems can occur in an adaptive use program when the congregation is involved. Management of the facilities should be undertaken by a competent, experienced individual; the relationships between new users and the space should be clear from the beginning. It is important that the venture, whether undertaken for reasons of income need or personal commitment, be run in a business-like manner, and that little be left to chance. Tenant types should be carefully screened and chosen not only for the type of activity, but for the reliability of their tenure in the church. The church sould seek stable users and groups, and while there may be programs desired which will rely on annual refunding, and, therefore, annual review of their need for facilities, success of an adaptive use program is more tenuous if all of the programs are based on this type of arrangement. Tenants and programs that will need little alteration of the premises are also

desirable; this is why, in general, theatre groups cannot always use the sanctuary of a church, because of the extensive fire code and building code regulations that they must meet, resulting possibly in major alterations of the space or of the electrical or plumbing systems in the building. Uses which have an unpredictable income base may also be a risk for adaptive use, as there may be difficulties meeting rental commitments. These managerial and use factors are part of the difference between success and failure of the adaptive use program.

All of these barriers: tangible and elusive, legal, managerial, issues of capital investment and updating of the facilities, make adaptive use in a church a highly complicated problem. If a congregation leaves its premises, and the building is adaptively re-used under new ownership, some of these barriers disappear, but the whole new realm of return of profit and finance is more complicated, as the new owner may have entirely different goals for the program than did the church congregation. This study has examined two possible cases of adaptive use at the church; one, where church ownership and occupancy is retained, and the adaptive use program is undertaken to revitalize the church as an activity center in Central Square, and to help offset repair and maintenance costs; and a case where it is assumed that the church has relinquished ownership of the building, whether by sale or by gift, and a new owner develops new uses for the church as a building. Issues in both cases have emerged over a period of time; certainly, both arrangements lead to discussion of a number of major points, and there are cases

of adaptive use that conform to neither of these, but are combinations of both. As the study proceeds, there are clearer indications of the futility of some of the issues that will be discussed, and, in fact, the difficulties and near futility of the whole adaptive use issue clarifies why so many churches have been demolished rather than re-used. The issue then becomes one of disposal of church property rather than adaptive use of the building. This choice is still open to the First Baptist Church, but this study feels that demolition would be a regrettable and unnecessary mistake, and an irresponsible move on the part of the church; it is simply the easy way out. The study seeks to draw alternatives to demolition, but obviously, these alternatives are more challenging and difficult than demolition would be. It is, unfortunately, much easier to pave a parking lot and erect a fence than it is to develop a vital center of activity in a community.

The Cambridgeport Market

A preliminary look at the market conditions in the church neighborhood is a necessary prelude to any discussion of adaptive uses for the site. While the market is clearly in flux at the present time, it does affect the choices immediately available to the church.

Process:

The community context of the First Baptist Church has been discussed. Analysis of markets in the community is primarily on the basis of what has happened before, what is current, and what is planned for Cambridgeport and Central Square. Our process, again, was to interview

business and community leaders about Central Square and Cambridgeport's past and future, including city leaders, the business departments of local banks, and real estate financiers and developers who had previous experience with Central Square and Cambridgeport. From these discussions, the following notions emerged:

1. There is currently an adequate supply of housing to meet demands, at least for ownership, in Central Square. In some cases, new developments, such as 933 Massachusetts Avenue, and 1070 Massachusetts Avenue, have had trouble meeting anticipated occupancy levels.
2. Office space in newer buildings is at high occupancy levels, but original asking prices per square foot were cut in order to fill such new buildings as the Cambridge Gas and Electric Co. Current costs in this building are $5-6/sq. foot.
3. Demand for quality office space in Central Square persists, but many office spaces with outdated facilities and less desirable physical qualities are unfilled.
4. Selling of properties on Massachusetts Avenue currently owned by individual families is expected. Some rehabilitation of warehouse buildings along Massachusetts Avenue is expected, as money markets loosen, and it is expected that the rehabilitated space will be in demand.
5. Further decline in retail properties is expected. Many

stores on Massachusetts Avenue in Central Square are in financial trouble. Turnover and vacancy is currently at about three stores per month.

6. Increased home purchasing (at higher prices) in the Cambridgeport community is anticipated, particularly by young professionals and academics, as well as by eastern European families (primarily Syrian and Greek).
7. Future changes in the direct vicinity of the church include completion of a large housing for the elderly project on Pearl Street, one block from the church.
8. As money markets loosen, parcels of land around the church that are municipal parking lots will be purchased and developed, probably for low-rise residential and commercial use.
9. Few support services exist in Central Square for either business or residential community life. The lack of a well run, low key lunch restaurant is cited, as is the need for services to derelicts and transients who "hang out" in Central Square. Currently, there are no medical or counselling services localized in Central Square to help these people.

These observations obviously reflect the business community's hope that the current inflation/recession will soon pass, and lowering of the lending rates to some extent support their attitude. Many proposals for

Central Square have been scrapped due to tight money, but also because lenders and developers see the economic crunch affecting city services and maintenance programs. Thus, the anticipated spread of Harvard Square to Central Square has not proceeded as expected, but slower movement is still anticipated.

The Congregation and Adaptive Use

As discussed, adaptive use at the First Baptist Church would meet a number of needs for the congregation. First, a strong program of on-going activities would revitalize the church as an activity center and help it fulfill a new role in Central Square and Cambridgeport. Secondly, through the choice of activities for the program, the church could begin to provide a number of services to the neighborhood and Central Square, hopefully, stimulating civic consciousness in the area, and acting as a bridge between the business life of Central Square and the community of Cambridgeport. Finally, and this is crucial from the church's point of view, an adaptive use program would begin to provide a necessary base of economic support for the restoration and maintenance of the building. It would help relieve the congregation of the burden of carrying a landmark building, and yet preserve that landmark for the city and the neighborhood.

Originally, this study sought to analyze a wide spectrum of adaptive uses for the building. Explorations into the feasibility of commercial office space, performance center, restaurant, and other generally commercial uses were explored. Under these conditions, it was as-

sumed that the church community activities would relocate in the renovated sanctuary basement, and that the ell and ell basement would serve as the primary locations for the adaptive use program. Chart 3 demonstrates the kind of income base that might have been expected from this kind of program. We originally suggested an activity like Bingo or Beano as a way of raising substantial revenues, as this is an extremely lucrative fund-raising activity, that many churches sponsor. We were considering rental of facilities as a primary source of income to the church, whether through performances in the sanctuary, or office use of the ell space. After presentation of these and other notions about adaptive use to representatives from the church, it became clear that such options were severely limited by the attitude of the congregation. First, the congregation would never sponsor a fund-raising activity like Bingo, as they view it as a form of gambling, and therefore, cannot sponsor or condone it. Second, the present congregation is not interested in quasi-commercial uses of its space, and does not want to be viewed, or act, as a landlord.

The adaptive use program must respond to the purposes of the congregation, providing services to the people, and a "witness in Central Square." It is unlikely that the church would allow the sanctuary, because of the nature of the space and the meaning it holds for them, to be used for other than religious purposes. Therefore, uses that are seen as profitable and business-related are clearly out, and so are many uses of the sanctuary which might bring people to Central Square to visit

the church or attend a performance there. At the same time that the congregation wishes to provide a community service through an adaptive use program, many of them fear harm to the physical premises, and don't want uses that would bring people to the building that might not respect or take care of the space. Members of the congregation have also taken issue with the idea of new users who might smoke in the building, both for fear of fire, but also because of their personal conviction that smoking is wrong. It is important to remember that the First Baptist Church is run by congregational rule, which makes these opinions even more important to the decision-making process.

These attitudes made the study reconsider many of its original proposals for adaptive use with the congregation. There are a number of community and service uses that might fill the stated criteria of the congregation, such as a day care center or nursery school, but the building does not meet the requirements of such uses, such as open land for a playground, or adequate bathroom facilities. Capital improvement costs were cited as the reasons why such programs were not previously initiated, and the church might be more suited to community-based service organizations that need office and meeting space. That type of client would certainly be endorsed by this report, but if only the ell is to be used, and the congregation does not take on its own activity program of performances in the sanctuary, or some other kind of major fund-raising activity with its space, it is not likely that the rental of this ell space would accomplish all the purposes of the adaptive use program. The program needs to be far-reaching and intensely active.

If the coalition of congregations were formed, and new leadership were offered, then such an all-out program might be possible. Full, not partial advantage of the facilities must be taken; if the congregation wants to do something for the community, but actually fears and rejects the community needs, then the church will not revitalize itself in Cambridgeport and Central Square. While rental of the ell to community of non-profit uses might be a start, it is only a beginning, and more needs to be done to meet the needs of the community and to meet the financial needs of the church.

Adaptive use of the building with the congregation is still under discussion; so far, this report has been concerned with generating issues and responding to congregational concerns. The following charts were presented at mid-point of the work on adaptive use, and they begin to point out a wide variety of issues related to the program. While much of the substance of the charts have now been modified, they are presented here to point out some of the other complications and issues central to the coordination of new and traditional uses at the church. The actual charts will be found in the Illustrations' section. Discussion of these charts follows.

CHART I: INITIAL INCOME TO THE CHURCH

Our attempt here was to begin to organize some of the funding sources and projected amounts of income from these various sources. It has since been discovered that income from the sale of other properties is unlikely, because the coalition of congregations is unlikely. Income from the Massachusetts Historical Commission Grants-in-Aid Program and from Community Development Funds might, in fact, be much higher than we originally projected, if a community purpose is clearly part of the revitalization of the church, and if the project can develop a strong base of community support. It was also felt that the local community, including residents and businessmen, should be encouraged to lend financial support to the church restoration, and that this money should be raised as part of their commitment of interest to the project, and run as a fund-raising campaign by the church.

CHART II: FIRST BAPTIST CHURCH--INITIAL EXPENDITURES

This mid-point chart was assembled to project some total sum of costs for the restoration and adaptive use program. Since then, some of the procedures have been changed, and some of the costs correspondingly altered. The chart is significant to the extent that it tries to bring other costs to light which are normally forgotten in these initial planning phases for adaptive use, but which the congregation needs to know about, in order to make decisions. These costs include rehabilitation of existing space, in order to undertake even a minimal adaptive use program, and bring the building up to code, and modernization of facilities, including changes in the heating system, in order tp avoid unnecessarily high costs and annual expense of the current, antiquated and wasteful, systems. The chart also assumes that congregational activities would take place in the renovated sanctuary basement. The costs, when viewed now, might be structured differently, and some could be projected over a number of years, as suggested in the section on "Costing and Phasing the Restoration Work." But the chart afforded us a picture of a more total commitment to use and renovation of the building.

CHART III: ANNUAL INCOME

The annual income chart was produced to estimate the size of income that could be generated by different kinds of adaptive or multiple uses of the church facilities. Rental of the ell and ell basement areas were assumed, at the costs shown. The sanctuary was considered as a multiple-use area, for noon-time concerts, or other activities that could be sponsored by the congregation as part of their ongoing fund-raising program. Finally, we projected income that a single fund-raising effort, like Bingo, could supply. The church would not become involved with this kind of activity, we were told, but the need for that kind of income clearly remains, as illustrated by the Annual Costs Chart.

CHART IV: ANNUAL COSTS

Annual costs cannot be properly projected until the program for the space is clear. Originally, these annual costs were projected to project the operation of renovated (system improvements) space in the ell and basement, and to take into account a maintenance and management program. The management figure is way off, particularly if the congregation could delegate its own management team for adaptive use. Like the other charts, this one just raised issues and was a useful tool for discussion.

CHART V: ANNUAL OPERATING STATEMENT

The annual operating statement was a way for us to consider what the overall financial picture of the church would be with an adaptive use program, but it bases its figures on a large loan commitment, which is unlikely. For any real operating statement, the same basic factors should be considered: the annual income produced on the property, and the initial income from grants and loans, minus the restoration and operating costs, on a year to year basis.

Again, all of these charts were produced early in the process. The information in the charts is dated, and by now obsolete, but the intent, to get near to real figures and costs, is clear, and is an essential part of any adaptive use proposals for the congregation.

Appendix

Since completion of this section in late April, two meetings have been held with the Church Council at the First Baptist Church. At the first, Mindy Arbo, Charles Sullivan, and myself, were present to discuss the condition of the building, projected costs and potential donors, and the interest of the city in the preservation of the building.

At the second meeting, Reverend Richard Armstrong, of the Cheswick Center, joined me in discussing with the Council the role that the Cheswick Center could play at the church, and in answering questions about our previous meeting. Certainly, my own sense of the congregation's concerns and seriousness about their building and their role in Central Square was strengthened at these meetings. The process they will now begin will be to consider this report, discuss and question it, and proceed to a series of discussions about their role in restoring and adaptively using their facilities. The process, for them, will be time-consuming and difficult. A number of solutions may emerge which this report never considered. In their decision-making, the Cheswick Center will be available to them for management and financial consultation. I, too, will be available to work with them in the future, and answer for the study.

Much of what has been written in this study may prove irrelevant to the congregation. What appears to be of the utmost concern to them is a consideration of who they are, what their purpose is today, and which adaptive uses can help them meet these self-definitions. That

the processes this study has begun will now continue, in a very real way, is exciting and challenging to all of us who have worked on the study. As the congregation begins to make decisions, they can start a real dialogue with potential users for some of their space.

This study offers few answers to the congregation; it raises many difficult questions. But the congregation seems comfortable with the notion that many decisions and discussions face them, and hopefully they can use this study as a tool in beginning to approach the issues.

It is now clear to me that there are a number of adaptive use options for the space, particularly in community services, that the congregation could explore. As our process continues, the choices of these specific uses will become clearer and the real user clients will emerge.

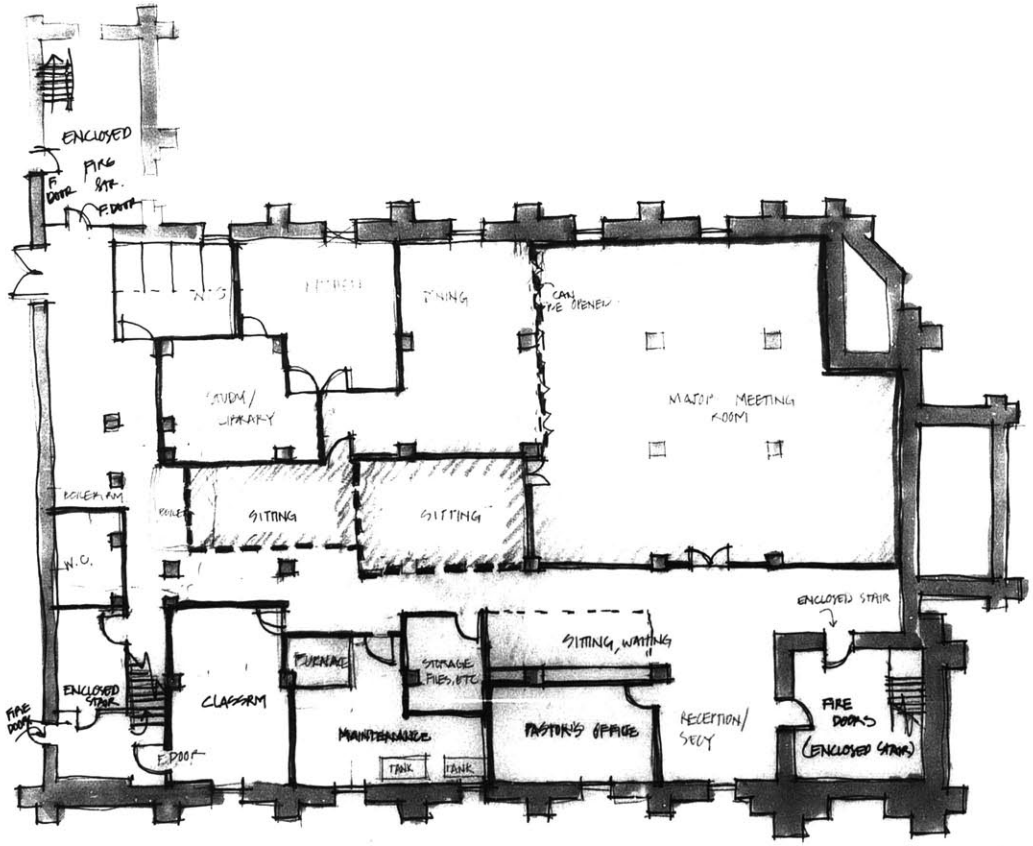
But the congregation is first faced with more basic issues for themselves, and rental of underutilized space in the church becomes then only a part of the larger process that they now begin.

illustrations

LIST OF ILLUSTRATIONS: THE CONGREGATION AND ADAPTIVE USE

Plate

The charts, and the issues that they present, are discussed in the previous section, pp. 103-104.



SPECS FIRE DOORS + NEW STAIR

FLOOR POURED CONCRETE SLAB W/ WALL TO WALL CARPET

WALLS GLASS PILES

SPACES:

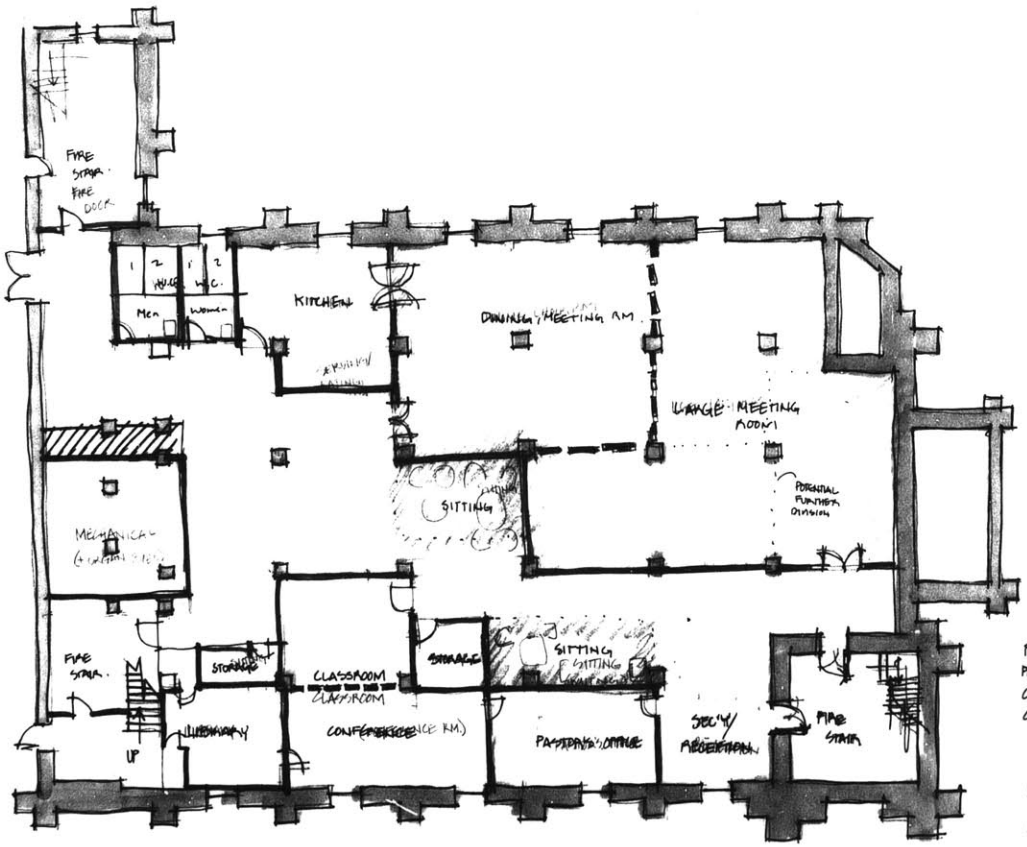
RECEPTION: 12X15
PASTOR'S OFFICE: 12X20
STORAGE (OFFICE): 9X12
CLASSROOM 14X20
MAJOR MEETING RM 36X44
DINING 24X16
KITCH 12X16
LIBR: 16 X 20.

STUDY FOR BASEMENT CONGREGATIONAL USE

1

Plate 1

00109



RECEPTION 12X12
PASTOR'S OFF 12X20
CONFERENCE → 12X24
CLASSRM → (CLASSRM → 12X 24A ~18
12X14
STORAGE 8X8
LIBRARY 11X12
MECHANICAL 16X16
W.C. 12X16
KITCHEN 12X16
DINING 24X28
LGE MTG RM. 36X24 +
12X12 CEN)

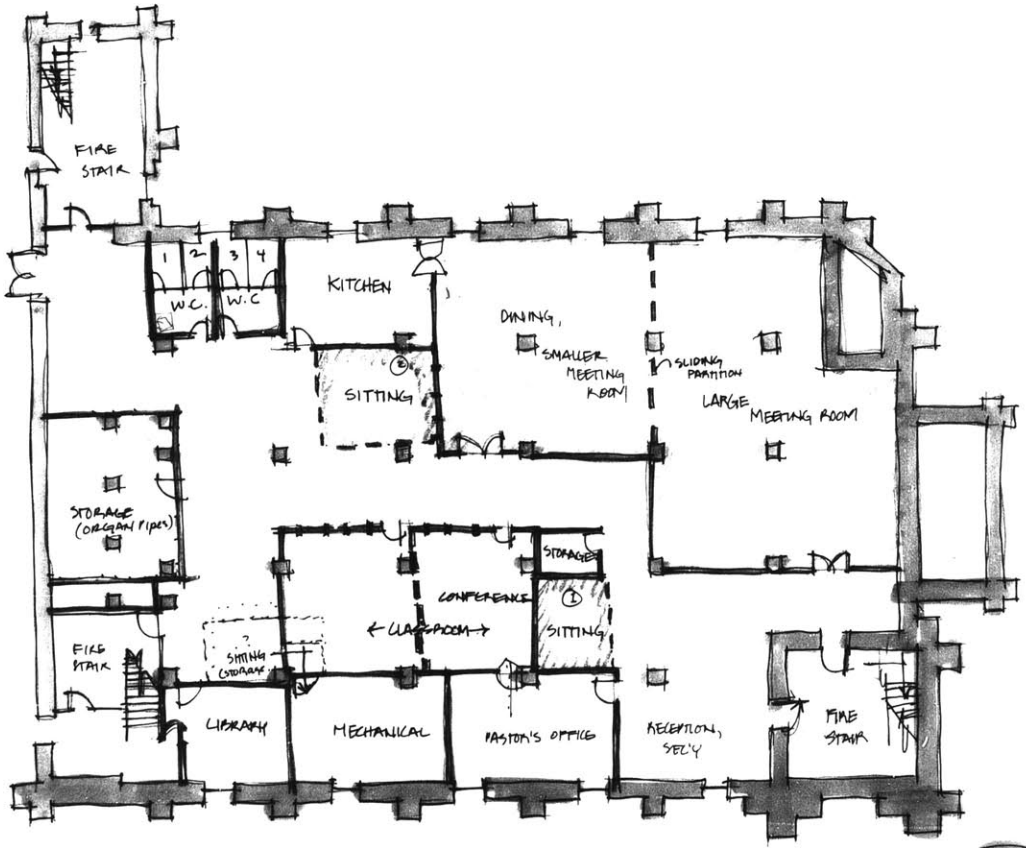
STUDY FOR USE OF BASEMENT BY CONGREGATION

2

5 March 1975
Ann Boden

Plate 2

00110



RECEPTION 12X16
PASTOR'S OFFICE 12X20
CONFERENCE } 12X14
CLASSRM 12X14 } CLASSRM 28 14X24
LIBRARY 12X12
STORAGE 5X7
MECHANICAL 12X15

LARGE MTG RM 24X36
DINING 24X24
KITCHEN 12X16
SITTING: ① 8X12
② 12X12

STUDY FOR BASEMENT CONGREGATIONAL USE

3

Plate 3

60111

INITIAL INCOME TO CHURCH

TYPE	SOURCES		RANGE	TOTAL
GRANTS	MASS. HIST. COMMIS.		8,000	
	BIRD & SON		5,000	
	OTHER	C.D.F. PRIV. SOURC.	5–15,000	13–30,000
CONTRIBUTIONS	LOCAL INSTITUTIONS			
	COMMUNITY		15,000	15,000
SALE OF PROPERTY	GRACE METHODIST		40,000	40–80,000
	PILGRIM CONGREGATIONAL		40,000	
				68–125,000

☞ MIDDLE FIG. $80,000

Plate 4

00112

FBC INITIAL EXPENDITURES

PROJECT	AREA	COSTS	TOTAL
RESTORATION			
EXTERIOR	ROOF	53 936	
	STEEPLE	82 000	
	OTHER FACADES	35000	
	GLAZING	5000	
INTERIOR	STRUCTURAL–ORGAN LOFT	2000	177.936
IMPROVEMENTS			
HEATING	ELL	10000	
	SANCTUARY	15000	
SAFETY	FIRE DOORS, STAIRS	9500	
PLUMBING	BATHROOMS	10 000	44.500
INTERIOR	PAINT & PLASTER–ELL	3 000	20 000
BASEMENT	REHAB	20000	245.436

Plate 5

00113

ANNUAL INCOME

SOURCE	CONDITIONS	AMOUNT	TOTAL
1. ELL			
RENTAL	6434 SQ' AT $4	$25,736	
	6434 " " 3	$19,302	
BASEMENT	5100 " " $1.50	7,650	
2. SANCTUARY	12 PERFORMANCES	1,200	
RENTAL	$100. RENTAL FEE		
NOON EVENTS	50 EVENTS $1.00	15,600	
BINGO	50 TIMES /, YR. ATTENDANCE AVERAGE - 300	50,000	
			$100,186

Plate 6

00111

FBC ANNUAL COSTS

AREA	TYPE	COST	TOTAL
TOTAL CHURCH	BLDG. MAINTENANCE PROGRAM	20,000	
ELL	HEATING 900 GALS/MO/50¢ GAL 6 MOS.	2700	
	AIR COND. 4 MOS.	2700	
	JANITORIAL SERVICES	10,000	35,400
VARIABLES:			
ELECTRICAL			
MANAGEMENT FEE		21,500	21,500
			☞ 56,900

Plate 7

001?5

ANNUAL OPERATING STATEMENT

TIME		INCOME	EXPENSES	EARNINGS	DEBT OUTSTANDING
YEAR	0	$ 80,000	$ 266,900	$ −186,900	$ 204,900
	1	100,186	61,500	+38,686	192,214
	2	100,186	66,500	33,686	174,528
	3	100,186	70,500	29,686	159,848
	4	120,000	77,500	42,500	129,848
	5	120,000	84,500	35,500	104,348
	6	120,000	88,500	31,500	81,348
	7	120,000	96,500	23,500	63,848
	8	140,000	105,500	34,500	39,348
	9	140,000	115,500	24,500	9,848
	10	140,000	126,500	13,500	$ 0
				+3652	

Plate 8

00116

TAX STATUS OF A NON-PROFIT ORGANIZATION
(501 C3)

New uses for space	Type of tax	
	Real estate	Corporate income
1. Academic, Charitable	not taxed	not taxed
2. Investment (management of portfolio)	taxed, except where user is non-profit	not taxed, unless involved in debt-financing or acquisition indebtedness
3. Business use	taxed	taxed

The Building, Adaptively Used

From the beginning, it has clearly been an intent of this study to analyze the church as a building, and propose new uses for this structure if the congregation were to sell or vacate it. Because of the building's visual function in Central Square, its architectural heritage, and the fact that it is physically a bridge between the business and residential communities, demolition is considered a last resort and the least favored solution for the site. The building provides a setting for many activities, and is visually one of the strongest identifying buildings in the Square, so the intent for this section of the study is to develop uses that clearly respect the positive position and contribution such a building can make in the urban context. Clearly, this section of the study could have taken the full four months. Proposals could be taken to developers, community groups, the city; costs and financial analysis might have produced a more decisive picture for the future of the building. Because of the complications of other sections of the study, this process has not been carried through, although it is now beginning, as the problem of the church receives more exposure, and the issues begin to be discussed with members of the community. What this section attempts to arrive at is a preliminary examination of space and use types, with drawings to suggest how some of the analysis could be carried through in design. Because this is a specific case study, its analysis is not intended to generalize about all churches or even older buildings, but it intends to suggest a framework through which adaptive use can be considered. The analysis is intended to raise issues, some

of which may apply to considerations of other older buildings, specifically churches.

Process:

This section of the study was treated as a two-week sketch problem. The prevailing question asked was always, "What does the space want to be?" and also, "How does its present forms and uses enable change and new designs?" Even before those questions could be addressed, the more "real" ones confronted the process. What are the problems of the site, and the current market? What does the architectural heritage of the building mean to an adaptive use program? These issues do not develop in a neat, orderly way, but instead appear all at once, and reappear every time a decision about space is made. It is clear that the real issue is developing one's own priorities about which of these issues is more or most important. The manner in which priorities are developed are often as personal attitudes about architecture and space, and certainly, these attitudes shape the form and intent of the uses and designs developed for the building. For this sketch problem, the final process can be summed up as one of intense observation, both of precedent and, particularly, of the building, itself.

What was important to me was the history of the building, the way it was and is perceived, both in the neighborhood and in the business community, and what the forms and design features of the church suggested to me in a real and analog way. The analogs and relationships developed could then be used to evolve both a redesign of space and function. The

process is admittedly non-academic, except to the extent that all processes relate to the ways we have developed for looking at, and considering, space. Little could be researched in the library, and often, codes and building restrictions were not central considerations, but instead, imposed on the design in its final stages. The result, intentionally, is an approach to fantasy on the space, which, for me, is often an appropriate beginning to the realization of the design. Soon, these fantasies come into the realm of the real just through consideration of budget and codes. But, for the purposes of this section, fantasy was a very real way to begin, and only after the fantasy was conceived, could it begin to emerge in form and raise important issues. In going back over one's fantasies, the analysis of the processes may, in fact, become more real. The important assumptions, relationships, and analogs that shaped this section are discussed below.

Site Relationships

Although this study has reiterated that the church is an important visual image in Central Square, beyond the singular and not always shared, experience of the building as landmark, there may be a set of problems relating to the site. One of these problems is that the building offers no indication to the pedestrian of any interior activities. One of my initial assumptions about re-use of the church is that any interior activities must receive exposure, and reach out, even visually, to the business and residential community. The community and business groups have become used to the idea that little activity happens inside the church, and the building must, again, be perceived as an activity center.

The green curb space around the church, particularly on the west side of the building, affords up to 40 feet additional width for the building, and this space might be used as an area where more activities, or exposure of activities, could occur. There can also be sitting, stopping, and waiting places for pedestrians incorporated into a re-use of the green buffer. Designs for this space could enable the building's activities to break out from their current massive envelope, and meet the pedestrian or viewer, providing advertisement of the church as activity place.

Choice of the scale and materials for an addition to the building are crucial issues. In this case, an addition, with much use of glazing provides maximum exposure of activities, increased economic value for the building, and does not interfere with the structural system of the existing building. The addition is the result of considering how the building is to reach out to the passer-by and the community-at-large.

Architectural Relationships

An approach to the adaptive use of the church should consider the architectural qualities of the building, and the important relationships that exist in the building, at present. Some of the distinctive features of the building include: the altar piece, organ works, rose window, panelling, and interior cast iron and wood exposed truss system. In the re-use, these features will assume more importance as clear relationships between the old and new uses are drawn. Single tenant uses, while providing perhaps more successfully for preservation of the interior of the sanctuary, does not currently seem to be a strong alternative

for the site. Even if it were, as might be the case if a theatre or performing arts facility were established in the sanctuary, the termination of the lease could mean that the church was in the same stage as previously: 100 percent occupancy by a single tenant also means 100 percent vacancy when the tenant leaves. Thus, the same issues, questioning the future of the building, would re-emerge. A shared tenancy also means multiple occupancy, and multiple uses for the sanctuary. With many new uses, new designs for the space will emerge, and these will mean that relationships between the old and the new will be drawn. The problem then becomes how to design for new, multiple tenant occupancy without threatening the basic architectural features of the space. Thus, the features, such as balcony, altar, and rose window, take on new meanings; the window becomes door, the balcony becomes a second level of space, the arch can be a vantage point or a door to walk through, and the altar becomes a new stage for performance, while the rose window remains a strong identifying and decorative feature for people to sit near. The space is still inhabitable, but perhaps in a new way. Maybe now, it becomes possible to really get close to many of the architectural and decorative elements and inhabit the cavernous height of the sanctuary. The important notion that emerges as a result of considering the sanctuary as place, not just as church, is that the space becomes truly inhabitable; the aisles are now paths through the ground level of activities, and they evolve into an interior street. The whole notion of procession through the sanctuary still becomes possible, as a new circulation path uses the old relationships. The adaptive use attitude which

emerges is one of using what the building is giving us, much with the same purposes, but to a new end. The order imposed on the new design should clearly be one that uses precedent, and explores the existing relationships for new ends. The order is clearly personally perceived and reconstructed, but the attempt is always to relate to the original purpose of the building as activity center, and as resource to the community in which it is located.

Market and Program

While there was never a clear, realistic program for the building, any space exploration had to respond to some space and use definitions. The issue of the "market" had, by this time, become a real obstacle; the appropriate uses for the building seemed more and more elusive. It was difficult to imagine that residential, commercial, or large retail spaces would be viable for the site, given the current market conditions in Central Square and Cambridgeport. The heavy restoration and maintenance costs are an undesirable feature of the building for any private developer; even if the congregation were encouraged to sell the building for a token fee, to a buyer who would insure its preservation, the restoration problems and costs cannot be justified in the private market.

Through the process of investigating public and private funding sources, it became clear that funding was most likely in the case where preservation of the building was a strong community asset, serving public needs. The city, it seems, could justify expenditures on the restoration phase through Community Development Funds if a clear community pur-

pose and support were evident. The market conclusion was also that one of the most viable uses for the space would be as a community service center of some sort; clearly, the community has many service needs, including services for the elderly, for transients, and alcoholics, as well as for the unemployed, and for yourth counselling and "reach out" programs. Cambridgeport does have a number of active and important community organizations that are currently housed in run-down or inadequate facilities; the prime location of the church would offer old and new community services and organizations centralized in a distinct and accessible facility. Because of the church's size, accessibility to transportation routes, and visibility as a community landmark, the notion of it as a center for consolidated community services and organizations became a loose framework for the adaptive use program. Thoughts on the purpose and features of an active community center began to emerge, and the adaptive use sketch problem began to be built around the notion of a multi-use community center.

Such a center might include profitable, as well as non-profit, uses, and might become a joint venture between the community groups and a private developer. Cambridgeport has previously demonstrated its ability to work out such an arrangement, and as this study proceeds, community groups are being alerted to the plight of the church, and there may be further discussion about such a possibility. The loose program emerged with, not before, the design, and the whole notion of community center is, again, one which needs lots of work and discussion. The attempt in design was to present ideas and attitudes about the space

that would be flexible enough to accommodate changes in the program. The sketch problem was intended only to open the possibilities.

The sketch proposal considers a combination of uses and spaces as infill in the sanctuary. The ell remains relatively intact, and is a viable educational, community meeting, or even office facility, but is separate from the sanctuary. The basements also become relatively straightforward design areas, where a variety of uses could be easily accommodated. It is the sanctuary which is really perceived as center, and is explored most thoroughly in the sketch problem. The sanctuary offers a combination of small retail and commercial spaces, a small restaurant, and a variety of sizes of spaces for community services and organizations. The following square footages and tenant mix evolved in the design:

1. Street Level (ground floor)

   Shops:

   1 @ 1,000 sq. ft.
   1 @ 575 sq. ft.
   1 @ 500 sq. ft.
   4 @ 250-275 sq. ft.

   Total: approximately 3,000 sq. ft. of smaller, neighborhood-scale shops, hopefully, similar in purpose and type to many of the family-run, neighborhood shops in Central Square and Cambridgeport.

   Performance 264 sq. ft.

   The altar would be used as performance and exhibit place, hopefully, very active at noontime and during the evening, but particularly to attract Cental Square business workers, as well as the community.

Coffeehouse 600 sq. ft.

A coffeehouse, sandwich bar combination, accommodating 75-90 persons, facing the performance area, to be used to sit and watch, have a snack, or rest. It does not have kitchen facilities, and is intended to be a low-key place to sit and have a snack, most active when concerts are being held.

2. Balcony Level

Balcony seating 450 sq. ft.

Seating approximately 70 persons. Some areas of the balcony are held to its original use, for viewing activities and performance below, and a new, intermediate height balcony provides additional seating, to rest, to watch, or to wait for an appointment.

Offices:

1 @ 160 sq. ft.
2 @ 500 sq. ft.
1 @ 450 sq. ft.

These office areas provide a variety of size and space types, and could be rearranged to accommodate larger space needs. The offices are located with access to natural light and ventilation, and can be approached through the street level, by stairway, or, without level change, by elevator.

Bar/Restaurant Waiting Area 300 sq. ft.

Seats 30 persons. A small restaurant is provided in the church. Its waiting area cum bar is located on the balcony level, as is the kitchen. Again, the scale of the facilities is small, in keeping with many of the successful restaurants in the Central Square and Cambridgeport area. The location of the waiting area/bar makes it part of the larger scheme of activities in the church, and obviously, the intensity of activities here is intended to be rather limited, particularly by the size of the facilities available. There is no reason for this to be used as a bar, for example, during the day, and if lunchtime is very active, it could be converted into part of the restaurant.

Kitchen 400 sq. ft.

Can serve 70-100 meals per hour. The kitchen's location was determined by its proximity to ventilation, exits, and its accessibility to delivery. Access to the street is primarily through the Magazine Street front fire stairs. Meals are delivered to the restaurant eating level by dumb-waiters, if desired, or by stair.

3. Terrace (third) Level

Office 675 sq. ft.

One office is located on the third level, with access to natural light and ventilation. The office could be a very

open one, as it is removed from much of the activity below, but has good visual access to the activities of the other levels.

Restaurant 850 sq. ft.

Seats between 60-90 persons. The terrace level restaurant, again, small in scale, is on two levels, providing a setting under the rose window and a view of the activities below.

The scale of all these activities is deliberately small; the feeling is intended to be one of a tightly knitted framework of activities that puts the church back on the beaten path as a building and activity center, but which is related to the scale of the community in which it is located.

The neighborhood, as has been described, is more row-house than high-rise, more stoop and front porch sitting than parks, more street ball than playground. It is essential to the adaptive use program that it clearly relate to the scale and nature of neighborhood activity. At the same time, it can provice a break, and be a setting for unusual activities, shopping, and events, and be a "new", as well as a familiar, kind of place. This duality helps it relate to neighborhood and community, business, as well as residential, and to relate to the whole city as a center, not exclusively the property of Cambridgeport and Central Square, but still very characteristic of that area.

The design and program want and need modification. The sketch problem is only the first step of the process; we are still working in a va-

cuum, and with each change, the program may become more real and viable for the community. The notion of the building as a new center of activities is the strongest intention of the sketch problem; another intention is that multiple uses be evolved for the space, but there is no strong insistence that there be a restaurant in the building, and offices and shops may be more interchangeable than the current space allocations suggest. What is important is that the activities that are ultimately chosen for the building put it back on the beaten path, and start to make the place more than just a visual landmark, but an active presence, in the community.

illustrations

LIST OF ILLUSTRATIONS: THE BUILDING AND ADAPTIVE USE SKETCH PROBLEMS

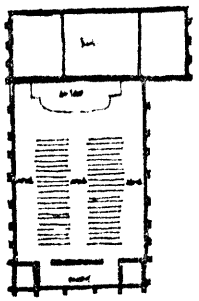
Plate

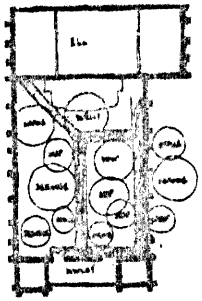
ESTABLISHING RELATIONSHIPS

circulation

aisles

as paths





moving

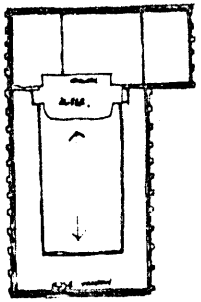
through

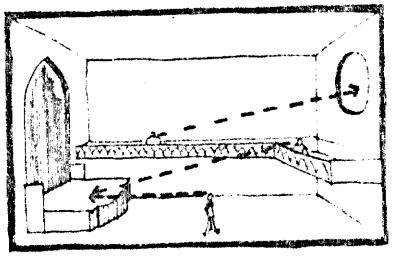
places, events

focus

altar &
rose window

visual reference



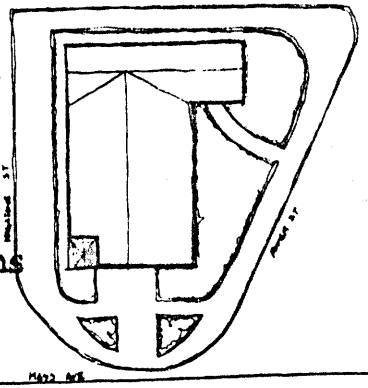


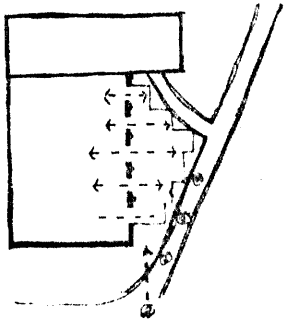
site

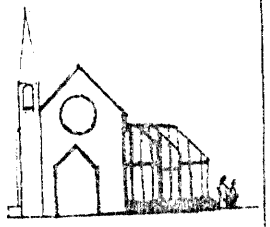
exposing activities

increasing density

relationship to
pedestrians







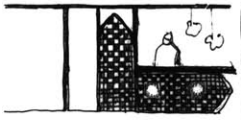
mass
ave.
view

Plate 1

USING THE PARTS

windows

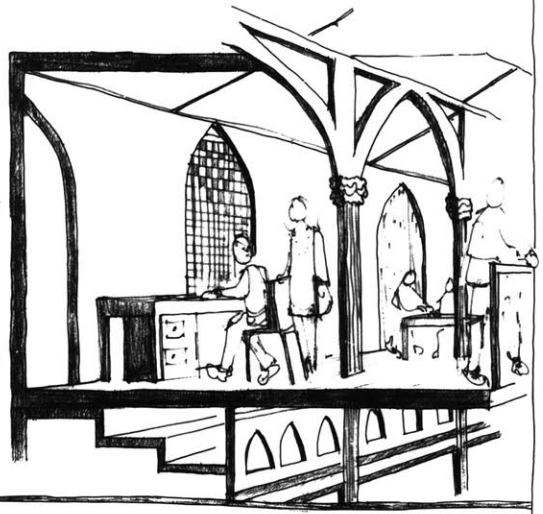
as panel



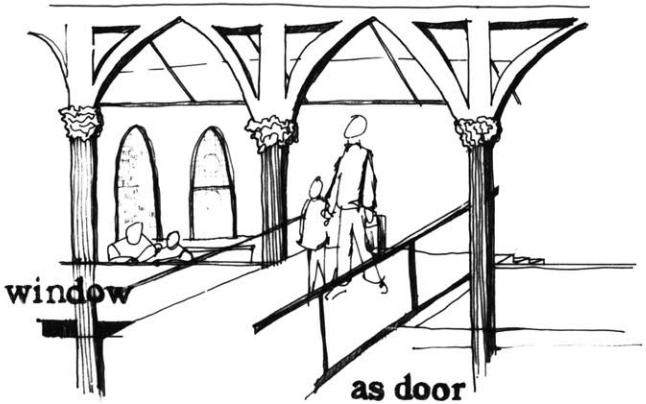
as opening

balcony

as office
or shop



arch



as window

as door

altar

balcony:
for viewing

performance

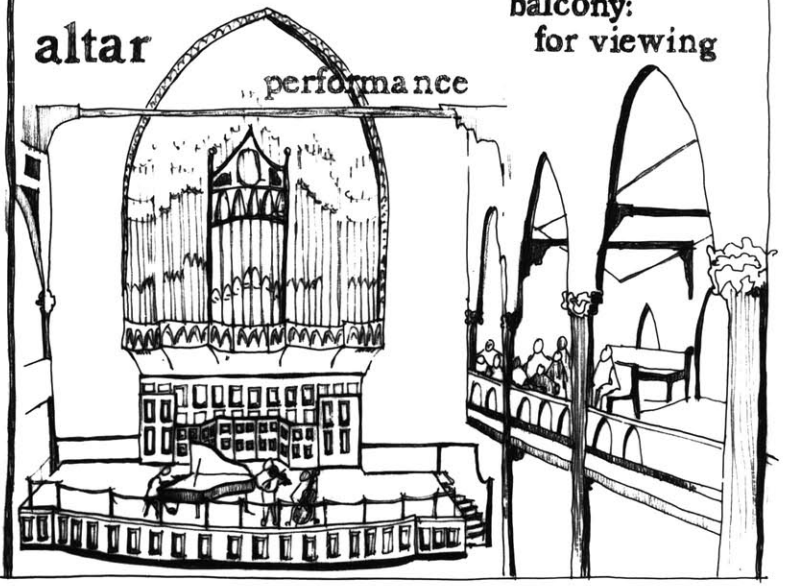


Plate 2

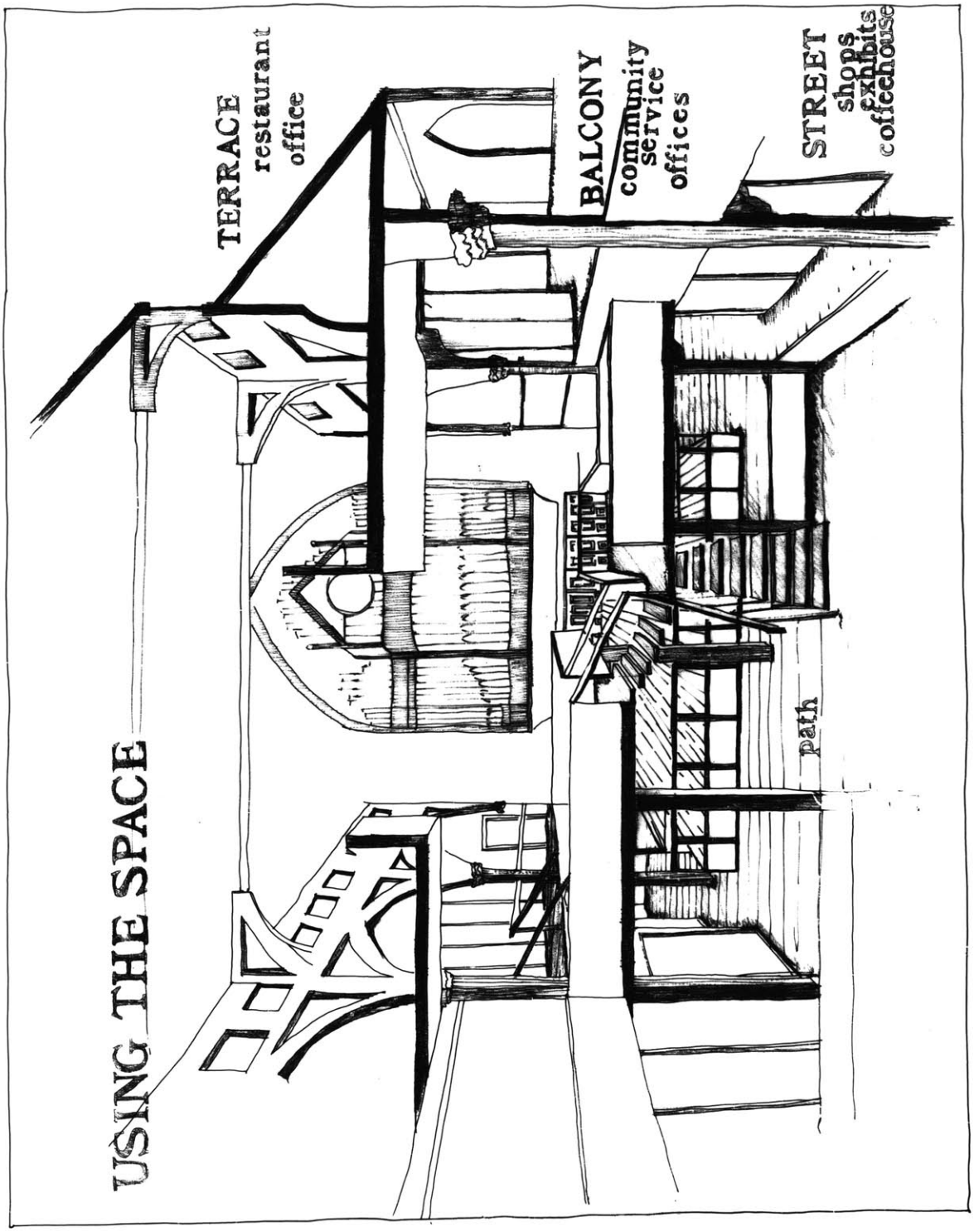

USING THE SPACE
TERRACE
restaurant
office
BALCONY
community
service
offices
STREET
shops
exhibits
coffeehouse
path

Plate 3

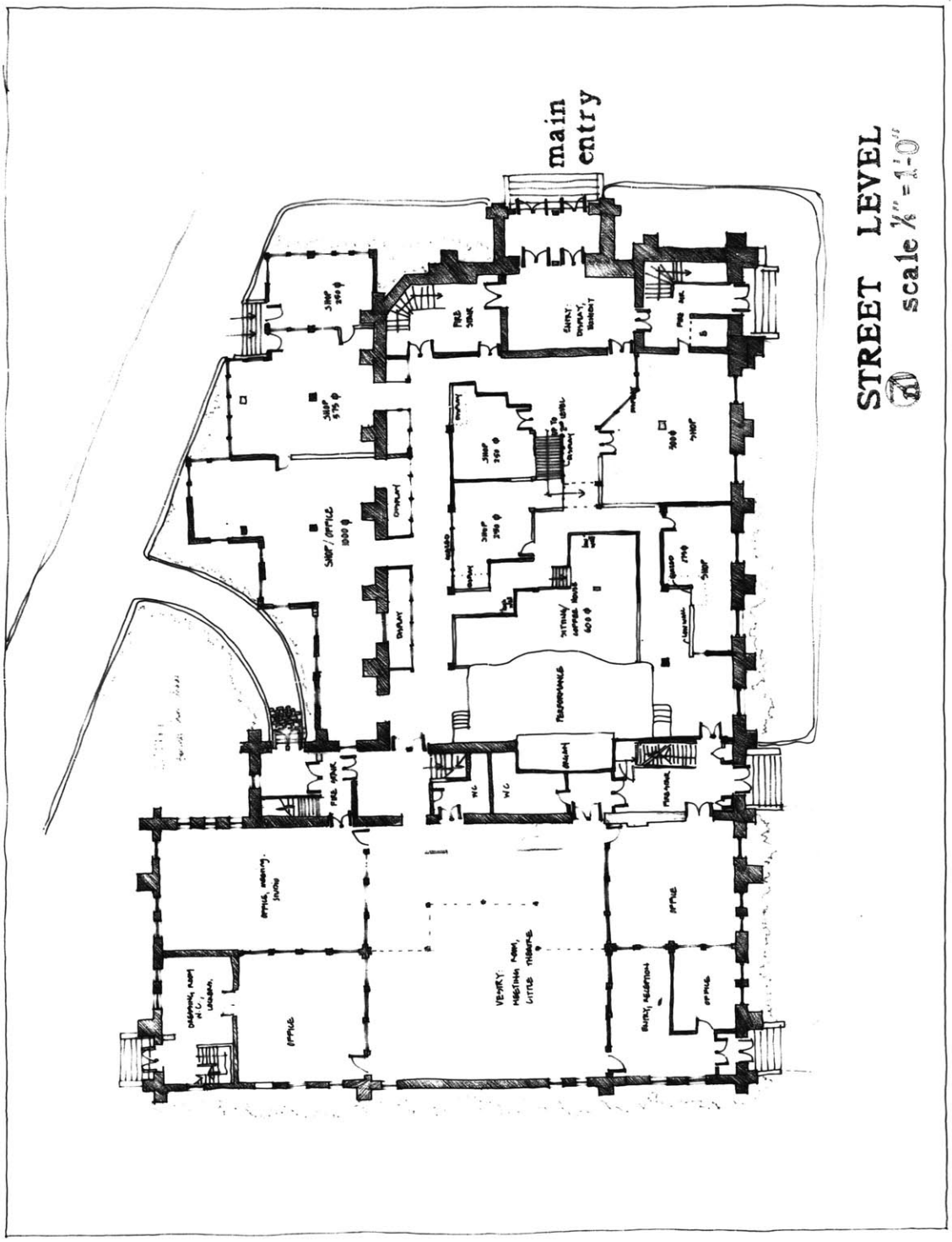


Plate 4

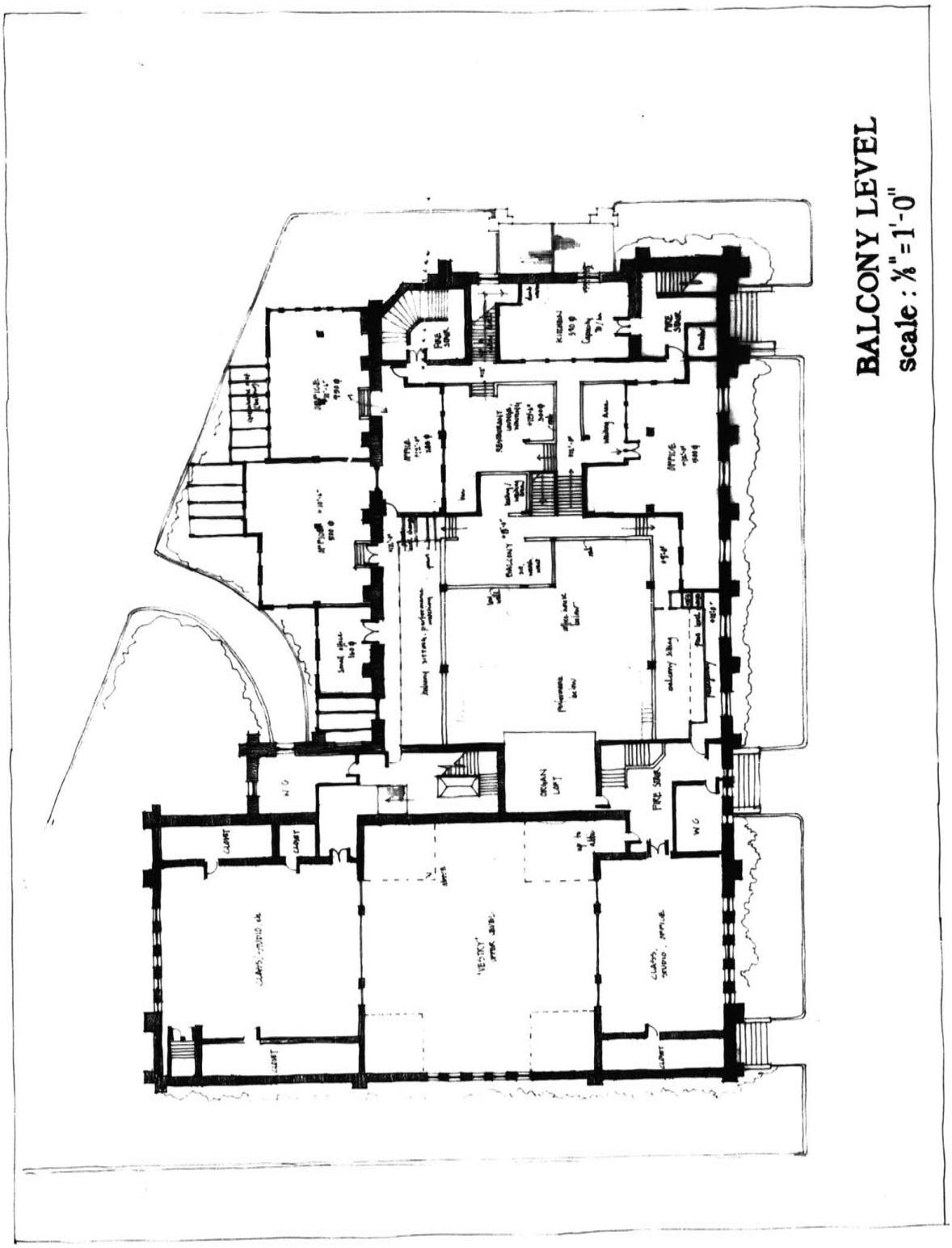


Plate 5

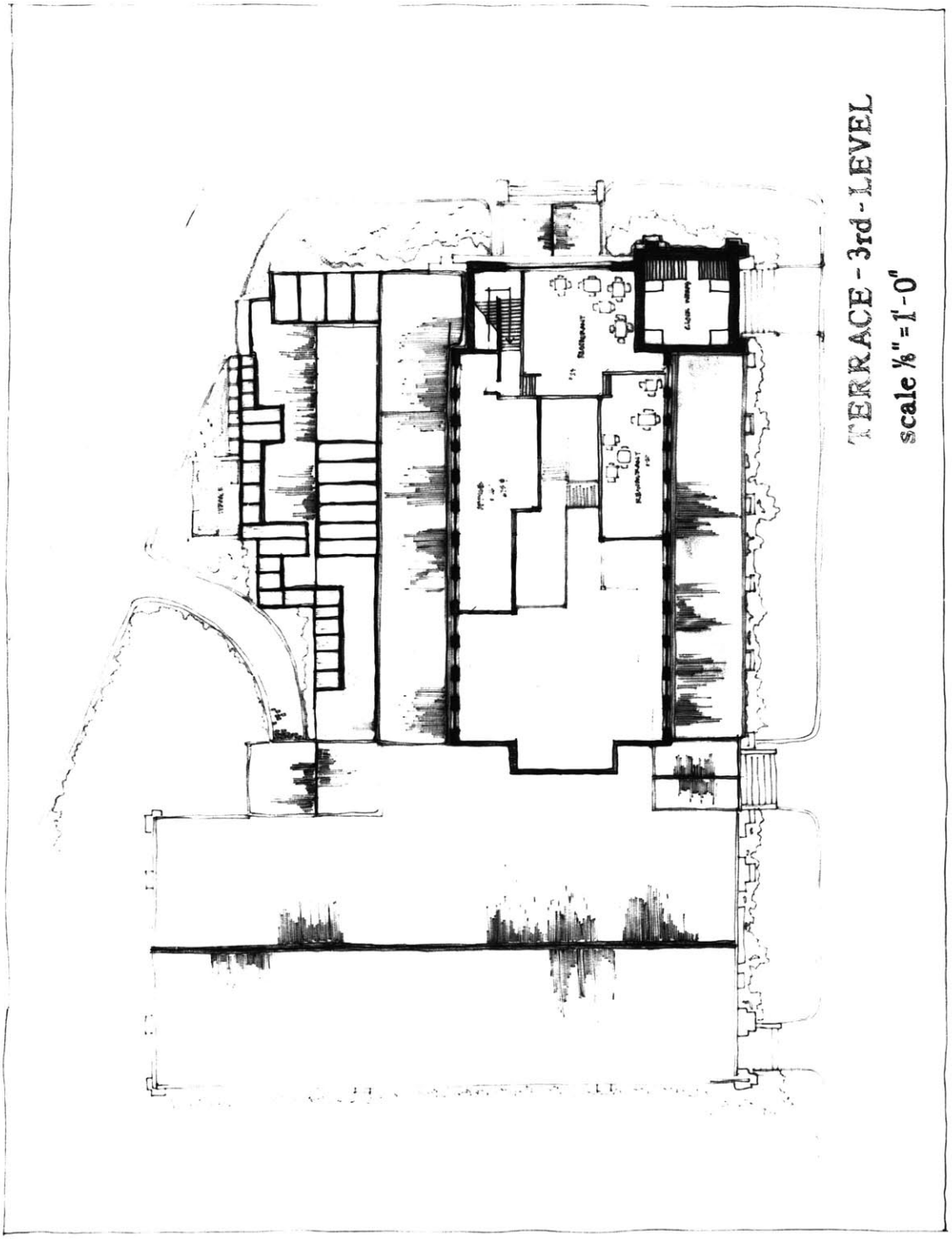


Plate 6

INHABITING THE SPACE

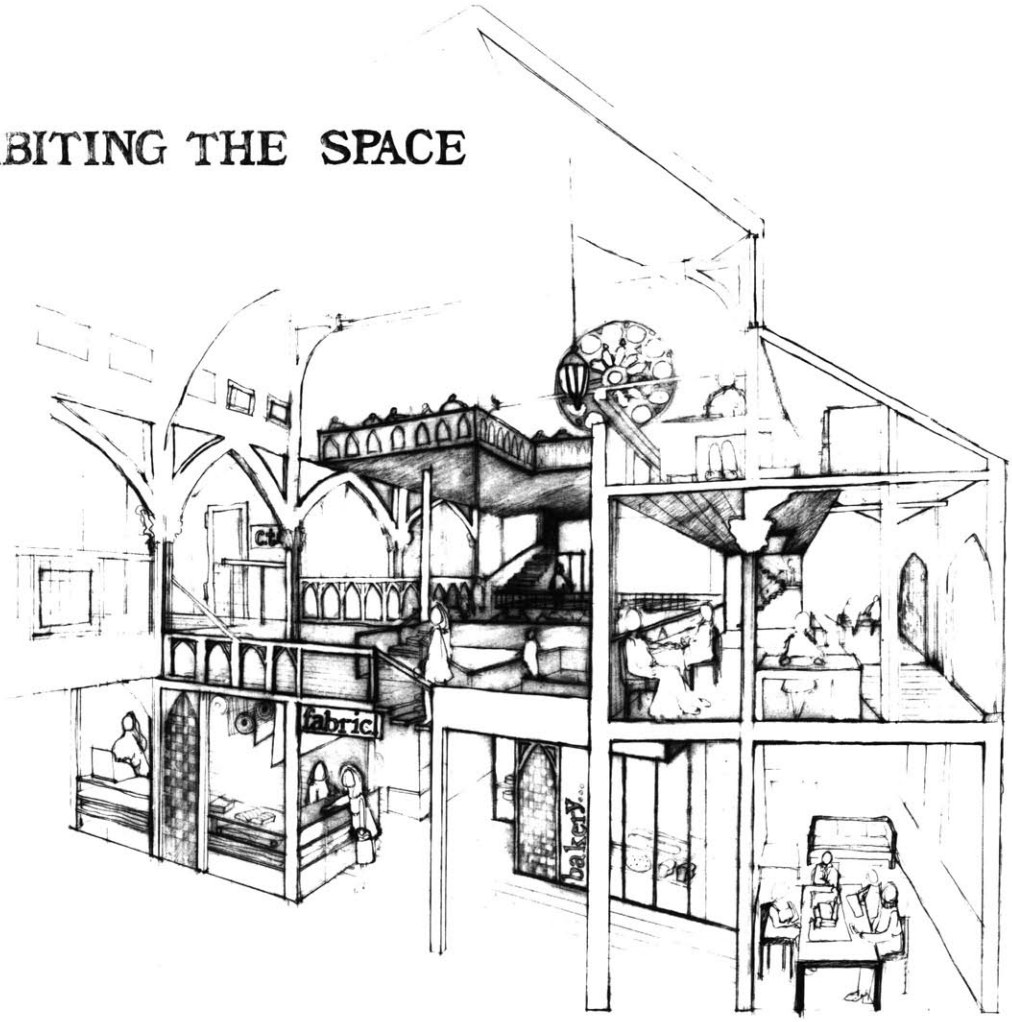


Plate 7

CONCLUSION

In the process of this study, a number of architects and developers involved with adaptive use projects were interviewed. The conversation was directed toward isolating those factors considered crucial to the success of an adaptive use project. Often, the factors cited were the building's location, the type of program evolved (and its relationship to the area market), or the kind of specialty space that the building preferred. One response raised quite a different issue: leadership. The expression was that with the right kind of leadership or management of a project, almost anything could be made successful. While this is clearly not the only factor, leadership has certainly been a decisive issue in the case of the First Baptist Church, and will continue to be. The problem of developing leadership, whether in the congregation or in the community, continues to confront the processes that the study has begun.

But even before the problem of leadership emerges, there is a more basic set of issues that have affected this study. These relate to levels of awareness and consciousness of urban places and spaces. If there are any conclusions in this study, they are not the usual statements about the mandate for government and private intervention into restoration projects. Instead, the issues that have re-surfaced are of the need for response to neighborhood areas and buildings. The First Baptist Church has alternatively been described to me as a landmark, a white elephant, and just a downright ugly place. These expressions have come from all kinds of people in all places. But, regardless of the esthetic appreciation of

the building, it is often not recognized in its role as building type, in such a location. The awareness of the visual role that such a building plays in its context is a crucial first step in understanding why the building is important, and what it might become. The sobering realization of this study is that we are not yet aware of our own built environment, and we are unable to isolate the places we feel special about until they are threatened in the most drastic way. This lack of awareness is at least partially responsible for the current plight of the First Baptist Church. Initial recognition of the quality and role of the building might have resulted in the kind of care and activities that would have avoided this current crisis.

Beyond the singular appreciation of place as landmark, or even visual relief, is a second set of awarenesses: those which deal with the role of a building in a functional, not visual sense, and its potential for active life and, in this case, adaptive use. The church is a special building on a special site, and it has much to offer the community in a real, functional way. This set of awarenesses deals with potential, as much as those which precede it deal with presence. We first must associate with what a place is and does, in order to then project what it might become.

These issues of consciousness about one's own environment face us all, and they will be very important to the future of the First Baptist Church. What would be useful as a way to work from this case study is a method for developing community consciousness of neighborhood, and development of a sense for what physical assets and qualitities

make our neighborhoods what they are. From this level of initial awareness of one's own built environment, the meanings of individual buildings and designs can begin to be explored and developed.